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The Calumet Area of Metropolitan Chicago

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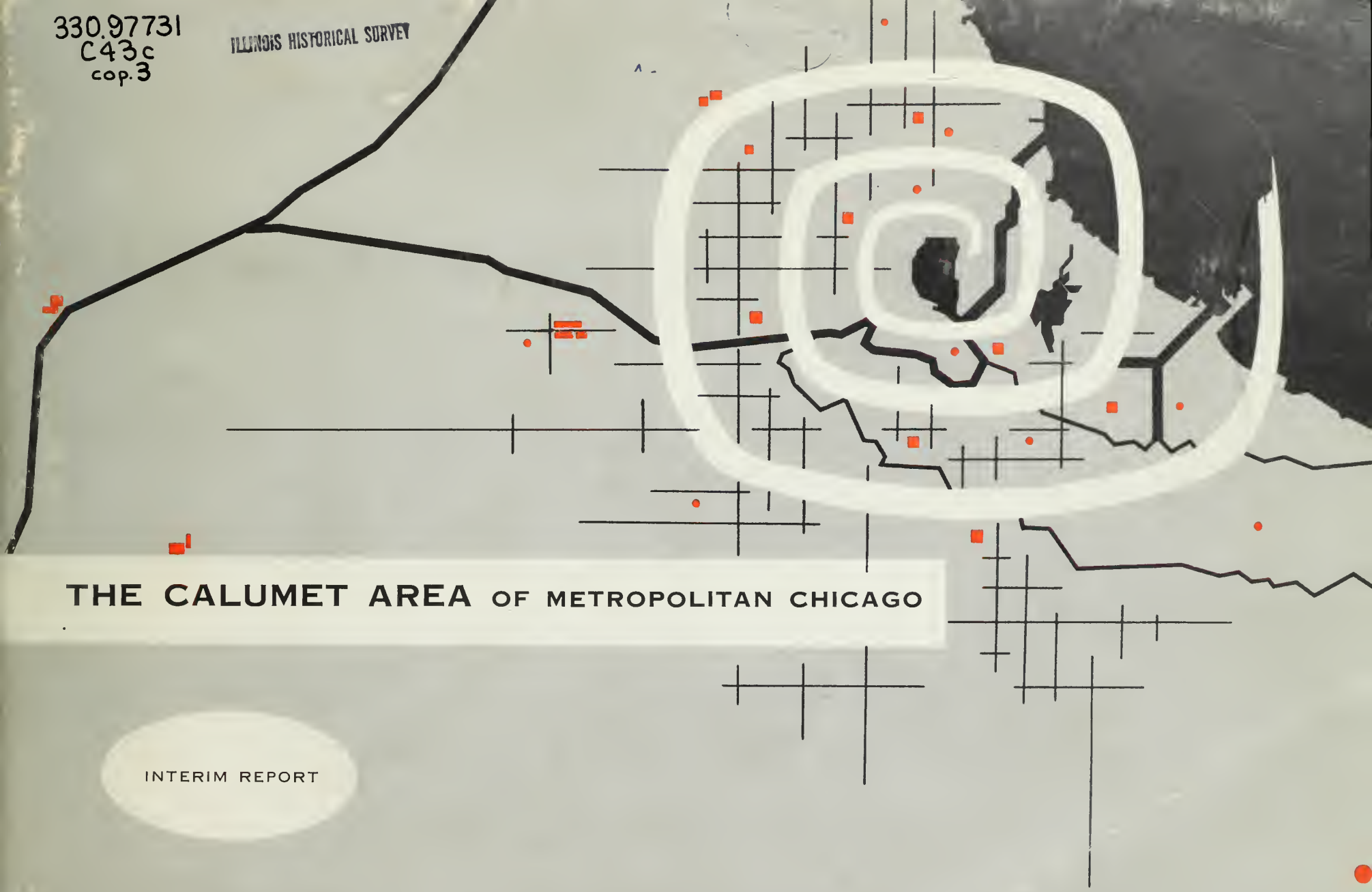

THE CALUMET AREA OF METROPOLITAN CHICAGO

INTERIM REPORT

CHICAGO PLAN COMMISSION • DECEMBER 1956

CITY OF CHICAGO
HON. RICHARD J. DALEY
MAYOR

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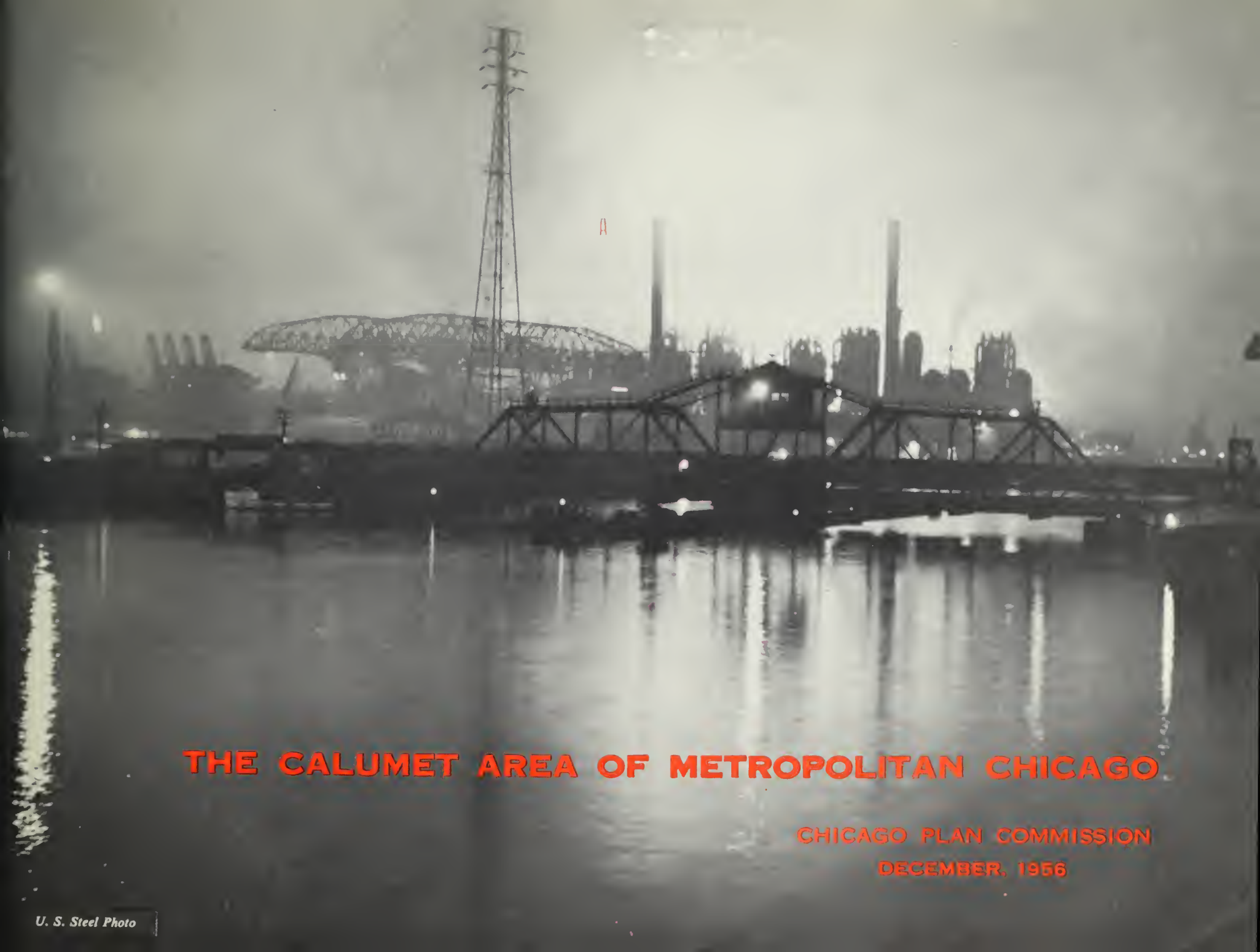

THE CALUMET AREA OF METROPOLITAN CHICAGO

CHICAGO PLAN COMMISSION

DECEMBER, 1956

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DEPARTMENT OF CITY PLANNING

City of Chicago

Ira J. Bach
Commissioner of Planning

Hon. Richard J. Daley
Mayor

April 15, 1957

Hanarable Richard J. Daley, Mayor
and Members af the City Council
af the City of Chicago
City Hall
Chicaga 2, Illinais

Gentlemen:

The attached Interim Repart an the Calumet Area af Metrapolitan Chicaga was prepared in 1956 as a part af the work pragram of the Chicaga Plan Commission.

As you know, the new Department of City Planning came into being on January 1, 1957. Alsa, the Chicago Plan Cammission was reorganized as of the same date.

I have reviewed the Report and find that it pravides a great deal af the data needed for planning in this area. It points aut that completion of the St. Lawrence Seaway and Calumet-Sag projects, together with the harbor facilities at Calumet Harbor, will produce enarmaus benefits as well as problems for the Chicago Metropolitan area. The Repart recammends that plans be made naw in order to efficiently prepare far the tremendous investment in new plants and public facilities thot soon will be made. Alsa, for the expanded population that will became part of the needed labor farce. This shauld include plans far hausing, schools, and recreation areas.

Since the 1957 work pragram far the Department af City Planning includes planning for this area, it can be assumed that these recommendations af the Repart are already being carried out.

Respectfully submitted:

Ira J. Bach

Ira J. Bach
Commissioner of City Planning

ILLINOIS HISTORICAL SURVEY

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FOREWORD

For the last half of 1956 the work program of the Chicago Plan Commission has consisted primarily of two types of activities: (1) the initiation of basic studies as a part of a long-range comprehensive planning program such as a proposed economic base study of the Chicago Metropolitan Area and a land use inventory of Cook County, and (2) the initiation of planning programs leading to at least partial solution of several impending crises in urban development.

Although a fundamental part of the comprehensive planning program, the study of the Calumet Area was dictated by the impending crisis in the development of the Area. In the next four years the port and waterway developments in the Calumet Area are likely to spur the already rapid growth in Chicago's outer zone and the metropolitan ring. The aggregate impact of these developments is likely to be felt in a vast area encompassing much of Chicago's south side and parts of three counties. The Calumet Area contains Chicago's primary industrial land reserve and is one of the few remaining areas in the City where appreciable new residential and industrial expansion can occur. What happens in this area vitally affects the entire City—especially its tax base. The suburban areas are equally affected with their periods of greatest growth yet to come.

This is an interim report with many problems left undefined and many questions unanswered. This report has been prepared for three reasons: (1) Even on the basis of partial study, it is obvious that prompt action of various types is required to alleviate adverse conditions which may hamper the development of the Area. The organization for the solution of these problems will involve much time and effort and can proceed while the required further analysis of the Area proceeds. (2) There is presently no organization either for the development or effectuation of a plan for the entire Area. The attempt to develop a collaborative approach to the solution of metropolitan problems should begin immediately. (3) There is intense public interest in the Area. The Plan Commission has been deluged with requests for information. The data gathered and analyzed to date is of sufficient public interest to warrant publication.

S. C. P. L. A.

The dimensions of future industrial development in the Calumet Area are dependent upon a number of complex factors ranging from trends in the national and regional economy to changes in technology and transportation rates. The Calumet Area is so irrevocably bound to the regional and national economy that accurate forecasts of future industrial activity cannot be made without an adequate economic base study of the Chicago Metropolitan Area. Such a study involving a projection of the Chicago Area's share of future national economic development by major types of industrial activities has been designed as part of the current work program and programmed to begin in 1957. This report is not a substitute for an economic base study but does include an interim analysis of some of the basic data required in an economic base study.

Sections in Chapter III were contributed by Harold M. Mayer, Associate Professor, Department of Geography, University of Chicago, who has also acted as consultant on port planning to the Chicago Plan Commission; by Elizabeth J. McLean, Traffic Engineer, Bureau of Street Traffic and Parking, Department of Streets and Sanitation, City of Chicago; and Frank E. Barker, Traffic Engineering Assistant, Chicago Transit Authority.

Valuable assistance in compiling the materials for this report was furnished by: William R. Marston, Deputy City Traffic Engineer, Albert L. Forde, Associate Traffic Engineer, and Robert W. Harris, Associate Traffic Engineer, Bureau of Street Traffic and Parking, Department of Streets and Sanitation, City of Chicago, for consultation and for furnishing men and equipment to conduct a traffic survey and for granting time to Elizabeth J. McLean to assist on this study; Evan E. Olmstead, Traffic Engineer, Chicago Transit Authority, for granting time to Frank E. Barker to assist on this study; Arthur Longini, Chief Economist, Chicago & Eastern Illinois Railroad Company, for granting the use of industrial information in Company files; Maxim M. Cohen, General Manager, Chicago Regional Port District, for frequent consultations and for permission to reproduce the Lake Calumet Harbor Plan; DeVer Sholes, Industrial Department, Chicago

Association of Commerce and Industry, for furnishing information on industrial expansion; Sidney B. Westby, former Manager, Loren Trimble, Manager, Robert Stapleton, Irvin C. Hibbler, and Edmund Hafner, Territorial Information Department, Commonwealth Edison and Public Service Companies, for furnishing information on vacant industrial land, trends and locations; Allen K. Philbrick, formerly Assistant Professor, Department of Geography, University of Chicago, for granting utilization of suburban land use maps; Addison Brown, President, and Robert E. Grant, Manager of Industrial Development Department, Calumet Industrial District; Thomas Bunsa, Director, Purdue-Calumet Foundation; Walter Isard, Wharton School, University of Pennsylvania; Britton Harris, Institute for Urban Studies, University of Pennsylvania; and Charles Zwick, Harvard University.

The following organizations were of substantial assistance in furnishing information on land use, base maps, zoning, expressways, future plans, area problems, or other particular knowledge: Rezoning Program, Chicago City Council Committee on Buildings and Zoning; Bureau of Engineering, Department of Public Works, City of Chicago; Cook County Department of Highways; Division of Highways, Department of Public Works, State of Illinois; Illinois State Toll Highway Commission; Office of the District Engineer, Chicago District, U.S. Army Corps of Engineers; United States Geological Survey; Chicago Regional Planning Association; Regional Association of South Cook County; Cook County Housing Authority; Welfare Council of Metropolitan Chicago; Office of the City Engineer, Hammond, Indiana; United Steel Workers of America; Wisconsin Steel Works, International Harvester Company; United States Steel Corporation; and Ford Motor Company. Photographs were furnished by numerous organizations and industrial establishments and credit is given elsewhere.

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Calumet Studios Photo

SUMMARY

THE PROBLEM

The Calumet Area is beginning a new cycle of growth. The new harbor in Lake Calumet, the imminent completion of the St. Lawrence Seaway Project and the widening of the Calumet-Sag Channel will have the aggregate affect of increasing the present tempo of industrial development.

The Calumet Area possesses some unique advantages which will be significant in attracting industry in the future. These include large tracts of vacant land for industrial use, unusual transportation advantages—especially areas accessible to both deep water and barge traffic, an adequate supply of water for industrial processes, potential linkages with existing industries, and location in an expanding metropolitan area with a rich hinterland encompassing at least five states.

From this expanding economy will result new job opportunities, an improved tax base and other benefits. However, the problems are likely to be as dramatic as the benefits. The Calumet Area may become mired in a traffic problem so intense that the Area's livability and ability to attract and integrate new industry are seriously impaired. Without careful control over land use throughout the Calumet Area, transportation planning could become the hopeless task of attempting to build facilities for mammoth land use bodies generating hordes of traffic onto a pigmy street and transit skeleton.

Another critical problem will be the provision of housing for the new industrial workers. The severe housing shortage has so limited recruitment of the required new workers at the present time that the Association of Commerce and Industry has made a strong appeal for a step-up in the residential building rate to house these new workers. Further, the income limitations of industrial workers place definite restrictions on their choice of residence. Unless some unforeseen source of low cost housing is made available elsewhere, thousands of these workers will be forced to reside in already overcrowded rental areas on Chicago's south side with resultant pressure on "conservation areas." Increased pressure for conversions "by use" or "informal conversions" will continue unabated. A definite need exists for a realistic analysis of current redevelopment and urban renewal efforts within the context of an expanding economy and labor force.

The suburban side of the picture is no less gloomy. Sprawling, new, suburban developments extending in one contiguous, built-up area for miles beyond Chicago's boundaries are a strong possibility with the opportunity lost forever of creating desirable open areas between communities. Even at the present rate of growth agricultural land is disappearing rapidly.

A crisis now exists in suburban Cook County because of the number of municipalities in the present complex of small governmental and taxing units which are devoid of adequate tax bases for the required new schools and other facilities. The accidental location of waterways, rail lines, and other factors creating choice industrial land has resulted in some municipalities having very adequate tax bases. Adjacent residential municipalities with inadequate tax bases frequently must provide schools and other services for a large proportion of the workers employed in near-by "industry-rich" municipalities. This bitter contrast is likely to grow worse in the future.

The serious air pollution problem in the Calumet Area has been an important factor in diminishing the Area's value as an attractive place to live and locate new factories. Only one or two municipalities in the Calumet Area have air pollution control programs.

Other problems involve the large tracts of land requiring fill prior to use, inadequate zoning, the "blighted" vacant land suffering from tax delinquency and multiple ownership, an inadequate network of local streets, utilities, and mass transit. These adverse factors frequently deter heavy as well as light industries from locating in the Calumet Area and, if not corrected, are likely to result in the Area's never reaching its full potential.

The Area's considerable potential can only be reached if Chicago and the other municipalities realistically face up to the fact that

there are serious developmental problems in the Calumet Area. There is fortunately still enough time to rectify these conditions, but prompt, vigorous action is required. Evading the issues and prescribing superficial treatment will seriously impair the development of the Area.

This is an interim report on the Calumet Area. A large proportion of staff time has been devoted to industrial analysis—an important key to the future growth of the Calumet Area. The present industrial structure and potential industrial growth is considered first in Chapter I and summarized in the following section. Chapters 2, 3 and 4 consisting of a review of port and waterway developments, transportation, and population and housing problems and needs are summarized in the final sections of this introduction.

I. INDUSTRIAL DEVELOPMENT

(1) The Calumet Area plays a distinctive and critical role in the national as well as metropolitan economy being the nation's leading steel producing area. In addition, the Calumet Area ranks high nationally in the production of Petroleum and Coal Products, Chemicals, and Stone, Clay, and Glass Products.

(2) Of every 100 persons employed in manufacturing in the Chicago Metropolitan Area, 20 are employed in the Calumet Area. The Calumet Area accounts for 85 per cent of the Metropolitan Area's total employment in the Primary Metal Industries, 72 per cent in Petroleum and Coal Products, 30 per cent in Chemicals, 30 per cent in Stone, Clay, and Glass Products, and 21 per cent in Transportation Equipment.

(3) Because national and regional trends have such a large impact on basic activities in the Calumet Area, an analysis of recent developments has been made. Some of the more significant trends are as follows:

(a) Unlike the non-manufacturing industries such as wholesale and retail trade which have grown rapidly in employment since World War II, the growth of manufacturing employment has been concentrated largely in the period of rapid expansion during World War II and the Korean War. The current level of manufacturing employment in the Metropolitan Area is only slightly higher than the World War II peak and is 50,000 less than the Korean War peak. However, the civilian economy has been able to continue to utilize the increased production facilities expanded during the war periods so as to maintain high levels of employment.

(b) A gradual westward shift of industry is the result of the comparatively slower rates of growth of manufacturing activities in the Midwest and Northeastern parts of the nation. From 1947 to 1954 manufacturing employment in the 5 states of the Midwest increased only 3.4 per cent and both the State of Illinois and the Chicago Metropolitan Area experienced a decline of 4.1 per cent. However, 80 per cent of the total U.S. manufacturing employment is still concentrated east of the Mississippi River and almost two-thirds of this total lies east of the Mississippi River and north of the Ohio River.

(c) Trends in increased industrial output using as an index the value added by manufacture follows the same regional pattern. However, the Midwest as well as Illinois and the Chicago Metropolitan Area all experienced healthy increases in output in sharp contrast to the growth in employment.

(d) Of the ten leading metropolitan areas in the U.S., only Los Angeles experienced a more rapid growth in manufacturing employment than the national average. The Chicago Metropolitan Area decreased 4.1 per cent in employment but experienced a healthy increase in output (42.0 per cent), and the number of new firms (1229) organized or attracted to the Area. These figures are supported by the fact that for the previous decade the Area led all other metropolitan areas in the nation in both the number (501) and value ($585 million) of major industrial construction contracts awarded. Reasons for the lack of increase in employment are: (1) Technological improvements permitting increased productivity with little increase in employment; (2) Acute labor shortages

during the Korean War limiting potential expansion in certain industries; (3) the severe housing shortage limiting outside recruitment of new workers.

(e) Within the Metropolitan Area the following growth patterns are evident: (1) The outlying countries of the Metropolitan Area have grown more rapidly than Cook and Lake County, Indiana, but these two counties still contain 92 per cent of the Area's manufacturing employment. (2) Chicago's central area has continued to act as the Metropolitan Area's incubator for new, small industries. As these plants outgrow their original quarters, many find new sites in less congested parts of the City and Metropolitan Area. An appreciable part of recent suburban industrialization has resulted from this process. (3) Despite a continuing high rate of industrial out-migration, 1217 new factories and factory additions and 767 new warehouses and warehouse additions were constructed in Chicago from 1947 to 1954. In the ten-year period preceding July 1, 1956, a total of 1739 acres of land were put to industrial use.

(4) Within the Calumet Area are employed 347,000 persons of which 51 per cent work in manufacturing plants. The giant of the Calumet Area is the steel industry employing almost 100,000 workers or 52 per cent of the Area total. The Primary Metal Industries Group and three other groups of metal-working industries account for almost three-fourths of the Area's total manufacturing employment. Other important industries are Petroleum and Coal Products (16,000), Chemicals (12,000), Stone, Clay, and Glass Products (5,000), and Food (5,000).

(5) The core of the Calumet Area is a huge belt of heavy industries in south Chicago and northern Lake County, Indiana, furnishing jobs for almost 150,000 persons or 78 per cent of all manufacturing employees in the Calumet Area. The other sections of the Calumet Area are comprised of a wider diversification of light and medium as well as heavy industries.

(6) The predominant types of industries in the Calumet Area have very little flexibility in location when analyzed on the basis of required transportation facilities, size of sites, and zoning requirements. Petroleum and Coal Products, Chemical, Primary Metal Industries, and Stone, Clay, and Glass industries have least flexibility in location.

(7) In addition to manufacturing, warehousing, wholesaling, distribution and other heavy commercial operations represent a major activity in the Calumet Area and can be expected to undergo considerable change and expansion in the future.

(8) Although the output in many types of industries is likely to expand substantially, the land and employment increases may not be in direct proportion to the output increase. Technological advances including recent developments in automation are too new to assess their full impact on land and employment needs without further study.

(9) By 1970, Chicago's part of the Calumet Area is estimated to experience a growth of 35,000 new industrial jobs generating an additional 60,000 "service" jobs and a population increase of about 250,000 persons.

(10) The Calumet Area possesses some unique advantages which will be significant in attracting industries in the future, including: (a) large tracts of vacant land, (b) unusual transportation advantages, (c) water for industrial processes, (d) potential linkage with other industries, (e) location in an expanding metropolitan area, (f) a rich hinterland consisting of at least five states.

(11) The area also suffers from a number of disadvantages including: (a) tracts of land which require fill, (b) areas which are inappropriately zoned, (c) large tracts of land which suffer from tax delinquency, multiple ownership, obsolete platting, or railroad ownership, (d) large sections lacking a network of local utilities, (e) inadequate local access, (f) inadequate mass transit facilities, (g) serious air pollution problems, (h) location in a metropolitan area suffering from a labor and housing shortage.

(12) A program for alleviating these conditions should include: (a) the completion of a metropolitan economic base study and land-use plan, (b) passage of the proposed comprehensive amendment to the Chicago Zoning Ordinance, (c) a vigorous air

pollution abatement program for the entire area, (d) the attraction of steel-using industries, (e) an accelerated program of housing construction, (f) an integrated program of public improvements, (g) an improved public transit system, (h) an extensive program of providing grade separations for rail and vehicular traffic.

II. PORT AND WATERWAY DEVELOPMENT

(1) Three important port and waterway projects which are scheduled for completion within the next four years have focused attention on the Calumet Area, where two of the projects and Chicago's major existing port facilities are located. The first stage of Lake Calumet Harbor development is scheduled for completion early in 1957, the St. Lawrence Seaway improvement in early 1959, and the Calumet-Sag Channel widening in 1961.

(2) Traffic on Chicago's waterways has increased at a greater rate than industrial or population growth.

(3) Bulk commodities for industry or transshipment constitute the greatest volume of waterway traffic, with the Great Lakes system handling about 80 per cent and the Inland Waterway about 20 per cent of the total tonnage. Overseas general cargo totaled less than one per cent of Chicago's water-borne tonnage in 1955. Calumet Area terminals handled over three-fourths of the overseas cargo in 1955. The Chicago Harbor terminals handled the remainder.

(4) Chicago's position at the meeting place of the 7,000-mile Inland Waterway System and the Great Lakes-St. Lawrence Waterway makes Chicago and especially the Calumet Area unique among Great Lakes ports.

(5) Among the advantages of the location of the initial harbor development in Lake Calumet are:

(a) In the entire Metropolitan Area the Calumet Area is the most appropriate area for major harbor facilities for commerce and industry.

(b) The first stage of port development for the Chicago area will find its most convenient site in Lake Calumet.

(c) One of the strongest assets of the Lake Calumet Harbor is the potential of providing needed industrial land for manufacturing, storage and transfer operations with overseas, lake, and barge access.

(d) The Lake Calumet Harbor area and immediate vicinity is the future prime industrial development area in the Calumet Area because of a large supply of vacant industrial land with deep water and barge transportation and highway and rail access.

(e) Lake Calumet Harbor will aid in firmly establishing Chicago as the terminus of the St. Lawrence Route.

(f) Lake Calumet Harbor will provide experience and data essential in judging future harbor volume and administrative needs.

(g) Improved Navy Pier and other Chicago Harbor facilities can be viewed as a supplement to Lake Calumet as a general cargo harbor.

(6) Although Lake Calumet Harbor and other harbor and waterway improvements will greatly enhance metropolitan Chicago's competitive position, the following problems remain to be solved in order for Chicago and the Calumet Area to maintain a strong port and waterway position:

(a) The lack of coordinated harbor planning or development for the Chicago Metropolitan Area.

(b) Limitations of Lake Calumet harbor development are posed by the Calumet River water traffic congestion, possible marine accidents, and water-land traffic conflict produced by increased bridge openings.

(c) A weakened competitive position of Lake Calumet as a commercial harbor development is possible if a more accessible Lake Front harbor is developed on Lake Michigan.

(d) Provision of adequate barge routes to harbors in Lake County, Indiana.

(7) The following steps are recommended:

(a) Determination of the volume and character of future water-borne traffic for metropolitan Chicago after appropriate analysis of its commercial and economic potential.

(b) Effectuation of coordinated planning of port and waterway development in metropolitan Chicago which enlists the cooperation of the states of Illinois and Indiana, the Chicago Regional Port District, the city of Chicago, and suburban municipalities.

(c) Application for a federal interest-free loan to plan water front development similar to the recent $147,000 Housing and Home Finance Agency loan granted Erie, Pennsylvania.

(d) Evaluation of all Lake Front harbor proposals, and preparation of a plan which will include the states of Illinois and Indiana, such evaluation encompassing: (1) examination, periodically, of the upper limits of the capacity of Lake Calumet from commercial port development, (2) determination of Calumet River capacity to absorb future traffic and (3) examination of the feasibility of the proposed eastward extension of Calumet-Sag Channel to link with Lake County, Indiana harbors or substitution of other means of obtaining barge access from the Inland Waterway to harbors in Indiana.

(e) Reservation, by the city of Chicago, of the 1,100-foot Lake Michigan shore line property immediately west of the Illinois-Indiana boundary for possible future Lake Front harbor development.

(f) Determination of the feasibility of the full operation of Navy Pier and Chicago Harbor areas to supplement Lake Calumet Harbor.

(g) Investigation of the future magnitude of Calumet River bridge openings and determination if undue railway and highway traffic delays call for early action for more high level bridges or alternative solutions.

(h) Evaluation of public policy, including zoning, on utilization of land having access to navigable waterways with priority being given to water-transportation-oriented industries.

(i) Integration of port and waterway planning with land use planning for the Metropolitan Area.

III. TRANSPORTATION FACILITIES

(1) The efforts of at least an additional one-quarter of a million people to live and work in the Calumet Area will produce tremendous movements within an area one-half the size of the Chicago Metropolitan Area.

(2) This additional movement will be imposed on a circulation system already inadequate to serve present-day needs.

(3) Long-range solutions to transportation problems in the Calumet Area are possible only through alteration of existing land use and careful regulation of future development.

(4) A suggested program for immediate action includes (a) general improvement of vehicular traffic conditions including widening of pavements, parking restrictions, progressive signalization and redesign of main intersections, (b) four new streets to be constructed in conjunction with plans for residential and industrial development, (c) grade separations for primary rail and trafficway intersections, (d) the elimination of conflict between street and highway as well as railroad traffic, etc. (e) a study to determine the magnitude of present and future problems involving the conflict between land and water traffic resulting from Calumet River openings, (f) a study to determine possible new alignments and/or consolidation of the existing rail network, (g) a review of the boundaries of the Chicago Switching District with a view toward revision and extension, (h) a review of the motor trucking industry to determine needs and requirements for union truck terminals, truck terminal districts, and other types of facilities, (i) the development of an interim method for regulating land use at the convergence of expressways and/or

railroads, (j) a program for providing both surface and rapid transit facilities throughout the Chicago Metropolitan Area, (k) the reservation of land in the Calumet Area for an airport of intercontinental classification.

IV. LABOR FORCE, POPULATION AND HOUSING

(1) The industrial expansion of the Calumet Area will accentuate the demand for housing on Chicago's south side and in the suburban parts of the Calumet Area. This housing demand will be especially marked for low and middle income rental housing.

(2) The projected population of 8,000,000 in 1980 for the Chicago Metropolitan Area indicates an increase of two million over 1955 population with over 1,500,000 or 80 per cent of that increase residing in the suburban Metropolitan Ring. This increase is almost double the 1950 population of the Metropolitan Ring.

3) Housing construction in the Metropolitan Area had a high of about 380,000 dwelling units in the 1920-29 period, a low of about 95,000 units from 1930-1945 and a total of 345,000 units from 1946-1955. The percentage of the privately constructed dwelling units in the city of Chicago classified as multiple-family units decreased from 80 per cent in the 1920's to 33 per cent in the 1946-1955 period. During 1940-1950, over 75,000 dwelling units were added to Chicago's housing supply by non-permit construction.

(4) Within the Thirty-Minute Travel Zone of Lake Calumet (which presently houses 95 per cent of the labor force working in the industries of Chicago's portion of the Calumet Area) are 2.4 million persons (44 per cent of the Metropolitan Area's population). This total includes 88 per cent of the Metropolitan Area's nonwhite population.

(5) Over 60 per cent of the population of the Thirty-Minute Travel Zone and 75 per cent of the Zone's rental units are north of 79th Street within the city of Chicago.

(6) The Thirty-Minute Travel Zone is characterized by a great variety in family income and in housing value and condition but has decided concentrations of low income families and substandard dwellings in both the city of Chicago and the suburban area.

(7) The likely future place of residence of the 35,000 new workers to be employed (by 1970) in industries in Chicago's part of the Calumet Area is estimated to be about half in the City, half in suburban Calumet. Similar to the distribution of the place of residence of present employees, about one-third of the new workers are estimated to be housed north of 79th Street in Chicago, largely because of this area's large supply of existing rental housing.

(8) Implications of housing the added labor force include (a) increased pressure on existing rental housing, (b) increased housing pressure on conservation areas, (c) increased pressure on already crowded areas, and (d) accelerated development of vacant residential land with the majority of the new homes in suburban Calumet because of the shortage of vacant residential land in the city of Chicago.

(9) On the basis of the analysis of the residential problems of the Calumet Area, the following are considered primary developmental needs:

(a) Adequate land use planning, including metropolitan area planning, to assure the most desirable locations and required community facilities for future residential areas.

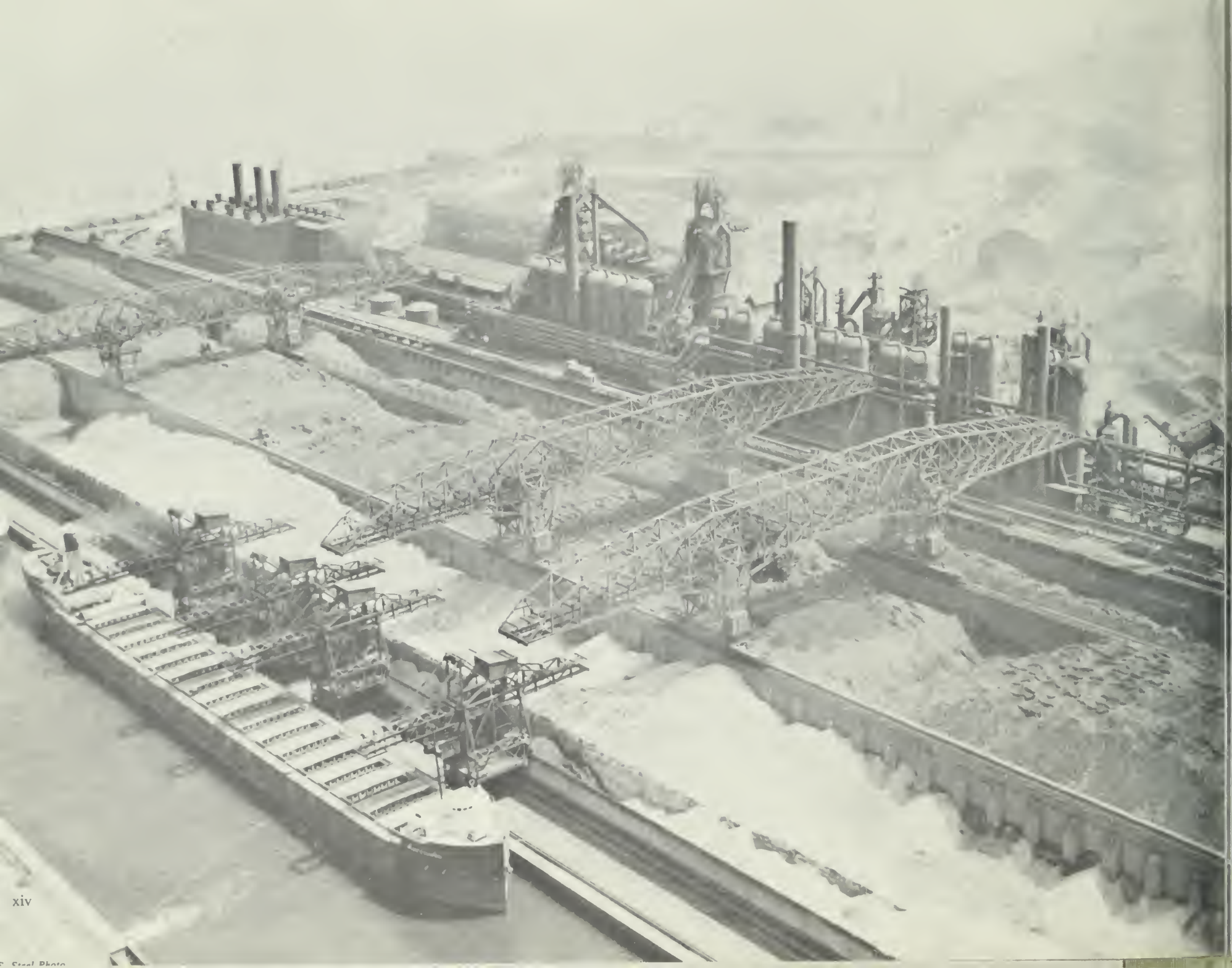
(b) An increase in the supply of housing, both rental housing and owner-occupied housing, for all income groups and especially rental housing for low and middle income groups.

(c) A realistic examination of current redevelopment and urban renewal efforts within the context of an expanding economy and labor force.

(d) Adequate standards for the new community facilities.

(e) Adequate transportation planning which relates transportation facilities to the traffic load generated by residental land uses.

(f) A realistic examination of tax base problems that will be made more critical by Calumet Area development.



I INDUSTRIAL DEVELOPMENT

Of every 100 manufacturing workers in the Chicago Metropolitan Area[1], 20 are employed in the Calumet Area[2]. In some industries the degree of concentration within the Calumet Area is even higher. Approximately 85 per cent of the employment in the Primary Metal Industries group comprised of blast furnaces, rolling mills, foundries, and related products, is concentrated within the Calumet Area (Table 1). The fact that this industry is the most important in the Metropolitan Area in value added by manufacture and number of employees (1955 average) dramatizes the key position of the Calumet Area in the Metropolitan Area's economy.

[1]The counties included in the Chicago Metropolitan Area as defined by the U.S. Bureau of the Census are: Cook, DuPage, Kane, Lake, and Will in Illinois and Lake in Indiana.

[2]The Calumet Area is defined as extending from 79th Street in Chicago south to the Cook County line and from Joliet east to the eastern limits of Gary, Indiana.

Similarly, as Table 1 shows, 72 per cent of the employees in the Petroleum and Coal Products industries are employed in the Calumet Area. The Chemical and the Stone, Clay and Glass Products industries each employ 30 per cent of all persons in the Metropolitan Area who work in these industries. Twenty-one per cent of all of the Metropolitan Area's employment in the Transportation Equipment industry is also concentrated within the Calumet Area. These industries are important to the Metropolitan Area not only in terms of producing employment and purchasing materials and services but also in acting as catalysts or multipliers in the metropolitan economy by creating a number of additional jobs in non-basic or service industries.

The industries in the Calumet Area play a distinctive and critical role in the national economy as well. For example, the steel mills in the Metropolitan Area in 1955 produced an estimated 21.7 million tons of steel exceeding the 19.1 million tons produced by the Pittsburgh Metropolitan Area.[3] This fact is confirmed by the

[3]Chicago Association of Commerce, *Commerce*, March 1956, p. 203.

Table 1. Manufacturing Establishments and Employment in Calumet Area and Chicago Metropolitan Area, 1954 and 1955[a]

	Establishments			Employment			Percentage Distribution			
		Number			Number		Establishments		Employment	
Major Industry Group	Number in Calumet Area[b]	in Chicago Metropolitan Area[c]	% Calumet of Metropolitan Area	Number in Calumet Area[b]	in Chicago Metropolitan Area[c]	% Calumet of Metropolitan Area	Calumet	Metropolitan	Calumet	Metropolitan
Food and kindred products	91	1,246	7.3	4,968	101,035	4.9	10.5	9.2	2.6	10.6
Tobacco manufactures	0	NA	....	0	NA	....	....	....	....	....
Textile mill products	7	99	7.0	584	7,341	8.0	0.8	.73	0.3	.77
Apparel and related products	22	1,081	2.0	1,785	38,591	4.6	2.5	7.9	0.9	4.8
Lumber and products except furniture	36	366	9.8	882	7,515	11.7	4.2	2.7	0.5	.79
Furniture and fixtures	29	566	5.1	1,931	22,437	8.6	3.3	4.1	1.0	2.3
Paper and allied products	32	334	1.0	2,730	23,203	11.8	3.7	2.4	1.4	2.4
Printing and publishing	51	2,031	2.5	3,510	81,072	4.3	5.9	15.0	1.8	8.5
Chemicals and allied products	68	712	9.6	11,719	38,848	30.2	7.9	5.2	6.1	4.1
Petroleum and coal products	29	82	35.4	16,008	22,174	72.2	3.3	0.6	8.4	2.3
Rubber products	7	NA	....	717	NA	....	0.8	....	0.4	....
Leather and leather products	1	187	0.5	44	9,629	0.5	0.1	1.3	0.0	1.0
Stone, clay and glass products	62	408	15.2	5,023	16,945	29.6	7.2	3.0	2.6	1.7
Primary metal industries	89	384	23.2	99,869	118,175	84.5	10.3	2.8	52.1	12.5
Fabricated metal products	127	1,929	6.6	12,583	96,535	13.0	14.7	14.2	6.6	10.2
Machinery except electric	113	1,778	6.3	13,881	125,520	11.1	13.0	13.1	7.2	13.2
Electrical machinery	25	652	3.8	2,584	116,865	2.2	2.8	4.8	1.3	12.3
Transportation equipment	33	229	14.4	10,077	47,327	21.3	3.8	1.6	5.6	5.0
Instruments and related products	10	311	3.2	216	24,815	0.9	1.1	2 3	0.1	2·6
Miscellaneous manufactures	34	1,012	3.4	2,494	39,695	6.3	3.9	7.4	1.3	4.2
Total	866	13,513	6.4	191,605	944,394	20.3	100 0	100.0	100.0	100.0

[a]Although the Calumet survey was made in 1955 and the Census survey was taken the previous year, the data are generally comparable. [b]Source: Files of the Chicago and Eastern Illinois Railroad and the Chicago Plan Commission Industrial Land Use Survey. [c]Source: *U.S. Census of Manufacturers, Preliminary Report, 1954.*

Census of Manufacturers of 1954 which shows that the Chicago Area leads all other metropolitan areas in the nation in value added by Primary Metal Industries. Stated simply the Calumet Area is now the nation's leading steel producing area.

The Chicago Metropolitan Area's Petroleum and Coal Products industry ranks first among all metropolitan areas in the U.S. in both employment and value added. As noted earlier almost three-fourths of the Metropolitan Area employment in this industry is concentrated within the Calumet Area. The Chicago Metropolitan Area's Chemical industry ranks second nationally in each of these indices. The Chicago Area's Stone, Clay, and Glass Products industry ranks fourth nationally, and the Transportation Equipment industry holds a fifth ranking position. The Metropolitan Area's Machinery, Fabricated Metal, and Food industries, which are big employers in the Calumet Area, all rank first or second nationally in both employment or value added by manufacture.

These figures illustrate the importance of the Calumet Area in the economy of the Area and nation and, conversely, the large impact of national trends on basic activities in the Calumet Area. How has the Calumet Area shared in the last decade of vigorous growth of the nation's economy and production capacity?

To answer this question it is necessary to examine, at least briefly, metropolitan and national trends since the industrial output of the Calumet Area comprises such a significant part of the total output of the Chicago Metropolitan Area, and for some types of industries, of the nation.

This chapter contains a review of (1) national and regional employment trends including manufacturing, (2) trends in manufacturing in the Chicago Metropolitan Area, (3) the pattern of industrial development within Chicago and the remainder of the Metropolitan Area, (4) the general industrial characteristics of the Calumet Area, (5) locational characteristics of the dominant industries in the Area, (6) the outlook for industrial development and (7) a recommended program of action.

NATIONAL AND METROPOLITAN EMPLOYMENT TRENDS

In both the Chicago Metropolitan Area and the nation as a whole employment in non-agricultural industries has experienced a steady increase since 1940 except for the short period of readjustment after World War II and the slight recessions in 1949 and 1954. In mid-June 1956, the number of non-agricultural employees in the Chicago Metropolitan Area was estimated at 2,613,500, an increase of 861,000 since 1940 and of 445,000 since the World War II peak year of 1943.

In both the nation as a whole and the Chicago Metropolitan Area the growth of manufacturing employment in the last 15 years has been largely concentrated in the period of rapid expansion during World War II and the Korean War. Both wars were followed by brief downturns, rapid recoveries, and a leveling off at high levels of employment slightly below the preceding war peaks. The civilian economy has in both instances been able to continue to utilize the increased production facilities expanded during the war periods. In June, 1956, manufacturing employment in the Chicago Metropolitan Area was estimated at 1,027,300, an increase of 53 per cent since 1940. The bulk of this expansion occurred during World War II, as noted above, with a subsequent minor boom during the Korean War when the current high level of employment was exceeded by 40,000 workers.

Unlike manufacturing, the non-manufacturing industries such as the wholesale and retail trade, service, and construction industries experienced only modest gains during World War II but have spurted in the post-war period. Non-manufacturing employment increased by 506,200 or 47 per cent from 1940 to 1956, of which 406,200 (38 per cent) occurred since the World War II peak year of 1943. Such industries have been able to expand rapidly since World War II in large part because the Area's economy experienced such a vigorous permanent expansion of its industrial base during World War II. The expansion of such industries is also more directly proportional to population growth which has been notably rapid during the last decade.

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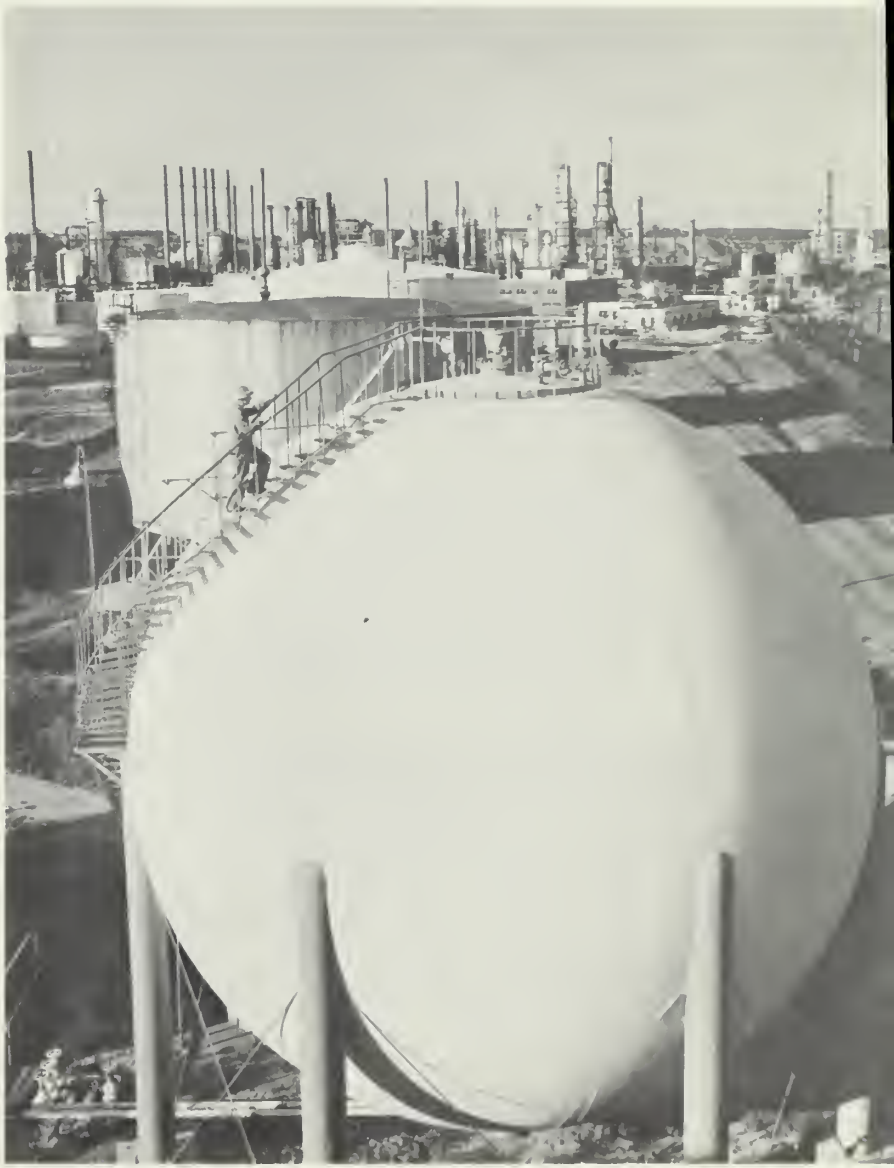


Pure Oil Photo

Other reasons cited for the tremendous post-war growth of such activities as service industries are: (1) increased leisure time for recreational activities, (2) increased purchasing power to devote to recreational activities, and (3) the lack of labor shortages in contrast to some manufacturing activities.[4]

Manufacturing comprises the largest single segment of economic activity in both the Metropolitan Area and the nation. In the Metropolitan Area 1,027,300 persons are employed in manufacturing as contrasted with 531,000 in the next largest industry, wholesale and retail trade. Forty of every 100 workers are employed in manufacturing as shown in the following table:

Table 2. Percentage Distribution of Non-Agricultural Employment in Chicago Metropolitan Area, June, 1956[a]

All non-agricultural employees	100.0
Manufacturing	39.3
Wholesale and retail trade	20.3
Services and miscellaneous	12.0
Transportation, public utilities	8.7
Government	8.6
Finance	5.6
Construction	5.3
Mining and quarrying	0.2

[a]Source: Illinois Department of Labor, *Illinois Labor Bulletin*, July-August, 1956.

Because of its key role in the economic well-being of the Metropolitan Area and, especially the Calumet Area, and in triggering population and business growth, manufacturing deserves careful attention. One of the primary "benchmarks" used for taking stock of the Area's manufacturing economy is the Census of Manufacturers. Since the war, two surveys have been made covering the years 1947 and 1954. The trends in the various types of manufacturing from 1939 to 1947 were examined in two earlier Plan Commission reports.[5] With the release of preliminary data from the 1954 Census a new opportunity is presented to evaluate the Area's manufacturing economy.

[4]Illinois State Employment Service, *Labor Market Trends*, September, 1956.

[5]Chicago Plan Commission, *Chicago Industrial Development, Recent Trends* (1951) and *Chicago Industrial Study, Summary Report* (1952).

TRENDS IN MANUFACTURING

In the seven year period from 1947 to 1954 manufacturing employment in the United States increased by 9.6 per cent, or *1.4 million* jobs. This was a healthy increase for a period when a large proportion of the nation's productive capacity was devoted to civilian needs but was markedly below the 53 per cent increase experienced in the previous 8 year period during and just after World War II (1939-1947). As noted earlier, the period since 1947 has been notable for a vigorous growth in employment in non-manufacturing industries as contrasted to the modest growth in employment in manufacturing industries despite the substantial increase in the productive capacity of the later types of activities.

Because of differing rates of growth of manufacturing activity in the various regions of the nation, there has been a slight shift in the concentration of manufacturing employment. The regions west of the Mississippi River all experienced rapid rates of growth ranging from 46 per cent increase for the Pacific States to 19 per cent increase for the group of seven states centering on Iowa (the West North Central States). All regions west of the Mississippi experienced rates of growth markedly more rapid than the national average (9.6 per cent) while the southeastern part of the United States grew only slightly more rapidly than the nation as a whole. On the other hand, the rate of growth of the regions east of the Mississippi and north of the Ohio River was notably below the national average ranging from an increase of 4.1 per cent and 3.4 per cent for the Middle Atlantic and Mid-western states, respectively, to a decline of 3 per cent in the New England States.

A gradual westward shift of industry is the net result of the slower rates of growth in the Midwest and Northeastern parts of the United States. Despite the fact that the areas west of the Mississippi experienced the most dramatic increase in manufacturing employment, 80 per cent of the nation's manufacturing employment lies east of the River. The bulk of the nation's manufacturing activity is still concentrated east of the Mississippi and north of the Ohio where almost two-thirds (64 per cent) of the nation's manufacturing workers are employed. The industrial belt

extending east from the Midwest to the Atlantic Coast constitutes the nation's most highly concentrated area for both the production and consumption of goods.

The five states in the Midwest clustering around Illinois, although declining by 1.7 percentage points from 1947 to 1954, still contains 29 per cent of the nation's manufacturing labor force, the largest concentration of any region in the nation. Lying at the heart of this area of high production and consumption as well as straddling the transcontinental transportation routes to the rapidly growing western states is Chicago in an unparalleled position for the production and distribution of goods.

In terms of increased industrial output using as an index the value added by manufacture (the total sales less the cost of purchased materials and services), the general pattern was similar to the growth of manufacturing employment. The most rapid growth occurred on the Pacific Coast while the New England States lagged behind the nation as a whole. Manufacturing output west of the Mississippi increased 90 per cent between 1947 and 1954, while rising 50 per cent in the states east of the river. In the Midwest the expanded output of 55 per cent about matched the national pace in sharp contrast to the below average increase of 3 per cent in employment noted earlier. This trend was also reflected in Illinois where, in spite of a slight decline in employment (0.2 per cent decrease), industrial output increased 44 per cent from 1947 to 1954.

The Bureau of Labor Statistics of the U.S. Department of Labor recently completed a study of increases in manufacturing productivity relating output to man-hours.[6] Noting that increases in productivity may be affected by such a wide variety of factors as the rate of application of new (or old) technology, the improvement in plant layout, work methods, and other applications of management techniques as well as by changes in volume of production, new products or materials, and the skill, effort, and incentive of the work force, the following conclusions were made as to trends in productivity in the nation:

(1) The rate of productivity increase during World Wars I (1914-1919) and II (1939-1947) were very low in contrast to the two postwar periods when rates of increase improved. During the two wars major interruptions in industrial activity and the subsequent reconversion to peacetime production were major factors in depressing productivity.

(2) Average rates of increase since World War II were substantially lower than in a comparable period after World War I. In the 1947 to 1953 period the average annual rates of increase ranged from 3.0 to 3.6 per cent as compared with almost 7 per cent from 1919 to 1925.

(3) The period from 1947 to 1953, nevertheless, represents a substantial gain over the low rate of increase of the 1939-47 period and is in line with the long-run average. The trend for the first three years after World War II appeared to be higher than average with the rate of gain slowing down considerably during the Korean War.

(4) On the basis of experimental figures, the Bureau of Labor Statistics suggests that the increase since 1953 has been significantly higher than the previous postwar average (1947-1953).[7]

A recurrent question from many quarters has been the effect on productivity of various technological changes which come under the general term of automation. Relatively little is known in a quantitative sense about its actual effect on the economy since most available information deals with specific innovations in specific plants or industries. Mr. Evan Clague, Commissioner of Labor Statistics, U.S. Department of Labor, in a recent talk before the National Industrial Conference Board stated that while the Bureau of Labor Statistics is not yet in a position to indicate whether automation was a significant factor in the substantial increases in productivity since 1953, "It is probable, however, that its role was minor compared to the effect on the expansion

[6]Bureau of Labor Statistics, U.S. Department of Labor, *B.L.S. Report No. 100* (1955).

[7]Evan Clague, *Trends in Productivity Since the War*, January 20, 1956. A talk given by the Commissioner of Labor Statistics, U.S. Department of Labor before the National Industrial Conference Board.

in the economy from the levels of the preceding business downturn."[8]

MANUFACTURING TRENDS IN THE CHICAGO METROPOLITAN AREA

Of the ten leading metropolitan areas in the United States, only Los Angeles experienced a more rapid rate of growth in manufacturing employment than the nation as a whole. As shown in Table 3, five metropolitan areas increased in manufacturing employment from 1947 to 1954; five, including Chicago, declined.

Table 3. Change in Manufacturing Employment and Value Added by Manufacture in Ten Leading Metropolitan Areas, 1947-1954[a]

Ranked by Rate of Employment Increase	Employment[b] Change Per Cent	Value Added by Manufacture Change Per Cent
Los Angeles	75.0	149
Buffalo	7.2	63
Cleveland	5.0	56
New York	2.6	40
Philadelphia	0.3	46
St. Louis	—0.5	59
Boston	—4.0	32
Chicago	—4.1	42
Detroit	—11.2	62
Pittsburgh	—18.1	46
United States	9.6	57

[a]Source: U.S. Census of Manufactures, 1947 and 1954 (Preliminary Report.)

[b]Employment based on operating manufacturing establishments.

In evaluating recent employment trends in manufacturing, it must be noted that there was a mild recession in 1954 just after the end of the Korean War. The Chicago Area's slight decline (4.1 per cent) is accounted for in large part by the temporary impact of the post-Korean War recession. If the Census of Manufactures had been taken in 1956 instead of 1953, there would have been a modest increase in employment over 1947. Some of Chicago's important metal-using industries were primarily affected in 1954. These industries have since recovered strongly from this mild business slump to approach Korean War peak levels of employment. [9]

In addition to the improvement in rate of productivity noted earlier, enabling employers to bolster output with correspondingly less additional manpower than previously, the labor shortage has apparently been a key factor in limiting the expansion of employment opportunities in the Chicago Metropolitan Area. The previous technical Plan Commission report, *Chicago Industrial Development, Recent Trends* published in 1951, noted that the shortage of the labor supply in the Metropolitan Area was a limiting factor to potential growth. Apparently this has been a major factor in the recent lag in the expansion of manufacturing job opportunities. The Illinois State Employment Service listed a number of reasons for this condition in the three central counties of the Metropolitan Area.[10]

(1) Acute labor shortages during the Korean War limiting expansion in certain industries.

(2) The severe housing shortage limiting outside recruitment.

(3) Technological improvements noted earlier.

The Association of Commerce and Industry recently announced a manpower recruiting program to meet the industrial needs of expanding industries with a strong appeal for a step up in the residential building rate to house these new workers. In 1956 the ratio of unemployment to the total labor force remained consistently below the 3.0 per cent mark—the point at which the U.S. Department of Labor defines a tight labor market.[11]

As Table 3 shows, the increase in employment is frequently a poor index of the increase manufacturing output. For example, Chicago's increase in output exceeded that of the New York Metropolitan Area, although New York ranked fourth in the rate of growth of manufacturing employment. As noted in the examination of national trends in productivity above, the period

[8]*Ibid.*, p. 7.

[9]Illinois State Employment Service, *Labor Market Trends*, May, 1956.

[10]Illinois State Employment Service, *Labor Market Trends*, September, 1955.

[11]Illinois State Employment Service, *Labor Market Trends*, January, 1957.

Figure 1

GREATER CALUMET AREA

GENERALIZED LAND USE 1956

RESIDENTIAL (INCLUDES COMMERCIAL USES, SCHOOLS, AND OTHER INSTITUTIONAL USES)

INDUSTRIAL (INCLUDES RAILROAD YARDS)

PARK AND FOREST PRESERVE

CEMETERY

GOLF COURSE AND COUNTRY CLUB

AIRPORT

VACANT (INCLUDES AGRICULTURAL AND SCATTERED RESIDENTIAL USES)

EXPRESSWAY AND TOLL ROAD

MAJOR HIGHWAY

RAILROAD

WATERWAY

SOURCES · SEE FOREWORD OF REPORT

N

0 1 2 3 4 5
SCALE IN MILES

CHICAGO PLAN COMMISSION
DECEMBER 1956

from 1947 to 1954 was apparently one of appreciable productivity increase following the period of rapid increase in employment but low productivity increase (per man-hour) during World War II. Chicago's increase in value added by manufacture is also explained by the concentration of durable goods industries here. Such industries on both a metropolitan and national basis expanded most between 1947 and 1954. It is these very industries which are most important in the Calumet Area. Although dollar increases were sometimes more impressive than the rise in physical volume, value added by manufacture is a rough index of appreciable rise in productivity since World War II.[12] One of the best examples of increased productivity is that steel mills in the Chicago Area are now producing 20 per cent more steel than in 1952 with only a slight increase in work force.

In sharp contrast to the slight decline in employment since 1947, the number of new manufacturing establishments increased by 1229 and the value added by manufacture by $2,347,901,000. This expansion in manufacturing activity constitutes a 10 per cent increase in number of establishments and a 42 per cent increase in value added by manufacture. The value added by manufacture is an excellent index of industry's economic worth to the Metropolitan Area, since it indicates the value which is added to the product in the process of changing raw or semi-processed materials into semi-finished or finished products.

This increase in the Metropolitan Area's production capacity is supported by the high volume of recent industrial construction, as well as the number of plants being attracted to or organized within the Area. In the decade since World War II ending June 30, 1956, 501 major industrial contracts were awarded (valued at $100,000 or more) for a total value of $585 million.[13] In this total period, as well as in the five year period of intensive plant expansion from July, 1951 to June, 1956 when 71 per cent of the total expansion occurred, the Chicago Metropolitan Area led all other metropolitan areas in the nation in both number and value of contract awards.

[12]Prices of manufactured goods rose about 20 per cent from 1947 to 1954, and the increase in physical volume is less than the value added by manufacture indicates.

[13]Files of the Territorial Information Department, Commonwealth Edison and Public Service Companies.

Despite the fact that industrial expansion continues to be diversified in accordance with a long standing trend in the metropolitan area, six industries constituted 82 per cent of the total value of construction. These six industries leading in value of construction were Primary Metals—$67.8 million; Chemicals—$64.9 million; Electrical Machinery—$62.0 million; Non-electrical Machinery—$49.9 million; Fabricated Metal—$48.6 million; and Petroleum and Coal Products—$47.4 million. Five of the industries, as indicated previously, are the major employers in the Calumet Area.

In the period from January, 1945 to June, 1956 over 1000 new firms located in the Metropolitan Area.[14] This increase in the number of new establishments in the Metropolitan Area resulted from the organization of new companies, the opening of branch plants, as well as the movement of industries into the Metropolitan Area from other parts of the nation. These figures exclude the movement of manufacturing firms within the Metropolitan Area. As will be explained later, as many as 80 per cent of the firms moving select new sites in another part of the Metropolitan Area.

PATTERN OF INDUSTRIAL DEVELOPMENT WITHIN THE CHICAGO METROPOLITAN AREA

In the seven-year period from 1947 to 1954, there have been new industries attracted to the Metropolitan Area, the formation of new companies and branch plants, the shifting of plants from one part of the Metropolitan Area to other parts, as well as huge investments to enlarge the production capacity of existing industries. How have these developments affected the distribution of manufacturing activity within the Metropolitan Area?

The 1229 new industrial establishments, resulting from the Metropolitan Area's growth from 1947-54, were distributed in the six counties of the Metropolitan Area in the following fashion:

Cook.....835	Lake, Ind.....78
Du Page.....112	Kane.....70
Lake, Ill..... 99	Will.....35

[14]Files of the Territorial Information Department, Commonwealth Edison and Public Service Companies (Includes only plants with 10 or more employees.)

In spite of attracting more than two-thirds of the new plants of the Metropolitan Area, Cook County grew at a less rapid rate of growth in new plant formation than the outlying counties.

Both the Metropolitan Area and Cook County experienced a slight decline in manufacturing employment in spite of adding 1229 and 835 new plants, respectively. The Metropolitan Area's loss of jobs was caused by a decline of jobs in Cook County, which counter-balanced the employment gains in the other 5 metropolitan counties. Apparently the mild business slump occurring in 1954, after the termination of the Korean conflict, affected primarily plants in Cook County. The new plants in Cook County noted above, as well as more recent employment data, indicate that this slight decline was temporary and perhaps concentrated in several industries, since an annual downswing in several industries can account for this much loss in employment.[15]

The net result of the more rapid rates of growth in the outlying counties has been a shifting of the employment center outward from the core of the Metropolitan Area. This trend has been true in the Chicago Metropolitan Area as well as most other Metropolitan Areas for over 50 years, and is predominantly a spilling over of municipal and county boundaries. However, despite the long term trend, no radical shift has occurred in the concentration of industrial establishments or employment in the period from 1947 to 1954. The great bulk of manufacturing employment (82 per cent) is still concentrated in Cook County. The 767,631 workers in Cook County, together with the 99,258 workers in Lake County, Indiana, the second most industrialized county, comprise 92 per cent of all manufacturing employment in the Metropolitan Area. None of the remaining four counties in the Metropolitan Area individually contain as much as 3 per cent of the Area's manufacturing employment.

The locational pattern of new industries attracted to the Metropolitan Area, as well as industries migrating from one part of the Metropolitan Area to another, provides an excellent method of measuring industrial development in various parts of the Metro-

[15]For example, the Illinois State Employment Service records Non-electrical Machinery, which declined by over 8,500 jobs from 1947 to 1954, increased by 12,000 jobs from March, 1955 to March, 1956.

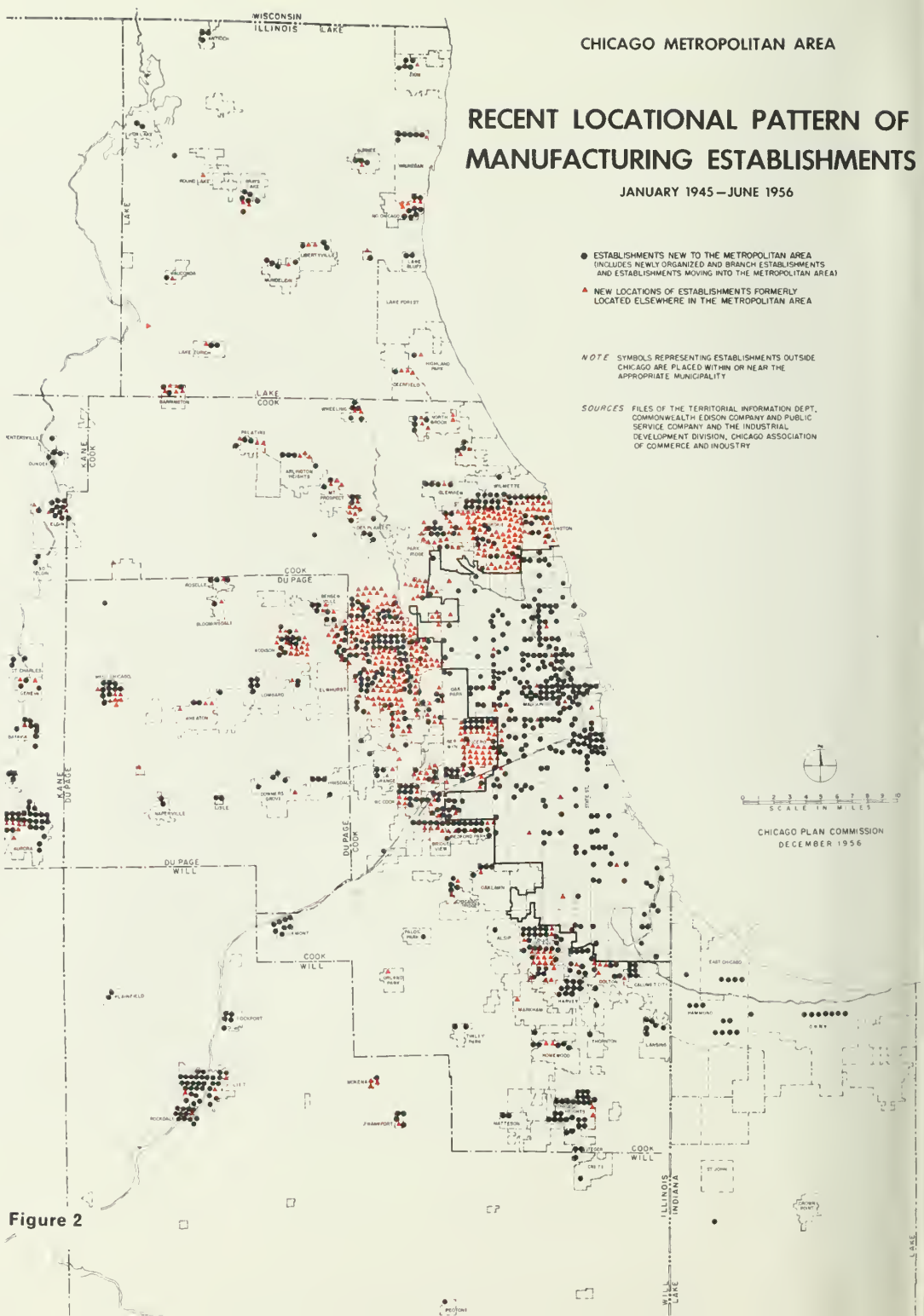

CHICAGO METROPOLITAN AREA
RECENT LOCATIONAL PATTERN OF MANUFACTURING ESTABLISHMENTS
JANUARY 1945 – JUNE 1956
● ESTABLISHMENTS NEW TO THE METROPOLITAN AREA (INCLUDES NEWLY ORGANIZED AND BRANCH ESTABLISHMENTS AND ESTABLISHMENTS MOVING INTO THE METROPOLITAN AREA)
▲ NEW LOCATIONS OF ESTABLISHMENTS FORMERLY LOCATED ELSEWHERE IN THE METROPOLITAN AREA
NOTE SYMBOLS REPRESENTING ESTABLISHMENTS OUTSIDE CHICAGO ARE PLACED WITHIN OR NEAR THE APPROPRIATE MUNICIPALITY
SOURCES FILES OF THE TERRITORIAL INFORMATION DEPT., COMMONWEALTH EDISON COMPANY AND PUBLIC SERVICE COMPANY AND THE INDUSTRIAL DEVELOPMENT DIVISION, CHICAGO ASSOCIATION OF COMMERCE AND INDUSTRY
SCALE IN MILES
CHICAGO PLAN COMMISSION
DECEMBER 1956
WISCONSIN
ILLINOIS
LAKE
COOK
DU PAGE
WILL
KANE
ILLINOIS
INDIANA

Figure 2

politan Area. In the period from June, 1945 through June, 1956, 742 new plants employing 138,000 workers located in Cook County. The other five counties had a total of 280 new plants, employing 30,000 workers. Of the plants locating in Cook County, 324 employing 66,000 workers selected sites in Chicago, as contrasted to 418 plants employing 72,000 workers, which located in suburban Cook County.

The locational pattern of these new plants, plus the plants moving within the Metropolitan Area, is shown in Figure 2. This map shows a continuation of the trend noted in an earlier Chicago Plan Commission Report, *Chicago Industrial Study, Summary Report*, in that an appreciable part of recent suburban development consists of plants moving from Chicago. It is notable that the settlement pattern of industries moving from Chicago tended to be concentrated in the suburban ring adjacent to the city of Chicago. Eighty-four per cent of these plants located in suburban Cook County.

Cook County also accounted for the bulk of the Metropolitan Area's industrial construction, as judged by major industrial construction contracts of $100,000 or more. Of the 188 major industrial contracts awarded in the Metropolitan Area in the five year period ending June 30, 1956, 150 were in Cook County. These contracts had a value of $280 million. Lake County, Indiana had 23 contracts valued at $94 million. These two primary industrial counties of the Metropolitan Area constituted 90 per cent of the value of contracts awarded in this five year period.

CHICAGO

The 1954 census for the city of Chicago is still being tabulated so that it will not be possible at this time to utilize these data to evaluate recent changes in the City's industrial structure. However, other data indicate that Chicago's industrial base has been vigorously expanded with hundreds of new manufacturing plants and warehouses. In the ten year period since July 1, 1945, 289 major contracts were awarded for the construction of new manufacturing facilities with a value of $238,610,000. In the eight year period from 1947 to 1954, 1217 new factories and factory additions and 767 new warehouses and warehouse additions were constructed in the city of Chicago. In the ten year period preceding July 1, 1956, a total of 1739 acres of land were put to industrial use.

Of the 742 new firms locating in Cook County in the postwar period, 324 firms employing 66,000 workers selected sites in Chicago. However, this employment gain was almost cancelled out by firms relocating from Chicago to suburban areas. A total of 507 firms employing 62,000 workers relocated to the suburbs leaving Chicago with a net gain in employment of only 4,000.

The above figures exclude the increase in employment resulting from the expansions of hundreds of existing companies. The analysis of overall changes in employment must await the release of the Census of Manufactures data for Chicago. However, a careful analysis of trends in Cook County indicates that the rate of industrial expansion in the outlying counties has probably continued to be more rapid than in Chicago. It is likely that an appreciable part of the slight employment decline noted in Cook County from 1947 to 1954 was within Chicago. Three of the four major industries in the Metropolitan Area which declined in employment are almost entirely concentrated in Chicago. Nevertheless, it is a certainty that the new census will show no major shifts in the preponderance of manufacturing plants and employment now concentrated in Chicago. The above figures on industrial construction reveal that Chicago has been vigorously expanding its production capacity, in spite of perhaps comparatively little recent increase in overall employment.

THE GENERAL INDUSTRIAL CHARACTERISTICS OF THE CALUMET AREA

The *resident* labor force of the Calumet Area is currently estimated to be in excess of 537,000 persons. Since 1950 it is estimated that the labor force has increased 16 per cent as a result of the general population growth of the Calumet Area.

Of the 374,000 persons employed in the Calumet Area 191,600 (51 per cent) work in manufacturing plants. The proportion employed in manufacturing is an excellent index of the degree of industrialization of the Calumet Area since in the Metropolitan

Area as a whole only 39 per cent of the workers are so employed. Twenty per cent of all manufacturing employment in the Metropolitan Area is concentrated within the Calumet Area.

The giant of Calumet Area is the steel industry. The group of industries falling under the census classification of "Primary Metal Industries" including blast furnaces, steel mills, and foundries employ almost 100,000 persons and constitute just over one-half the total manufacturing employment of the area (Table 4). Eighty-five per cent of the Metropolitan Area's workers in this industry are employed in the Calumet Area.

The Primary Metal Industries and the seven other major industry types listed in Table 4 each employing approximately 5,000 workers or more, constitute the Area's major employers. It is significant that three of this group—Non-electrical Machinery, Fabricated Metal Products and Transportation Equipment—are metal working industries with an aggregate employment of 36,000. The Non-electrical Machinery and Fabricated Metal industries rank as the third and fourth most important employers in the Area. The Primary Metal Industries together with the three allied metal working industries and the Electrical Machinery industry have an aggregate employment of 140,000 or almost three-fourths of the Calumet Area's total manufacturing employment.

Other important industries in the Calumet Area are the Petroleum and Coal Products industry which ranks as the second largest employer with 16,000 workers, or 8 per cent of the Area's total employment, and Chemicals with 12,000 workers, or 6 per cent of the total employment. In both cases employment is a poor index of the value of these industries to the Metropolitan Area since both industries are equipped with automatic production processes to a high degree resulting in a high investment and high productivity per employee. The Stone, Clay and Glass Products industry and Food industry each with 2.6 per cent of the total employment complete the list of leading employers. Other industries employing at least 1000 workers are Printing, Paper and Allied Products, Electrical Machinery, Miscellaneous Manufactures, Furniture, and Apparel.

Table 4. Employment in the Eight Largest Industries in the Calumet Area, 1955[a]

(Industries are listed in order of number of employees)

Industry	Number	Per Cent of Total Calumet Area Employment	Per Cent of Total Metropolitan Area Employment, 1954[b]
Primary Metal Industries	99,869	52.1	84.5
Petroleum and Coal Products	16,008	8.4	72.2
Machinery, except Electrical	13,881	7.2	11.1
Fabricated Metal Products	12,583	6.6	13.0
Chemicals and Allied Products	11,719	6.1	30.2
Transportation Equipment	10,077	5.6	21.3
Stone, Clay and Glass Products	5,023	2.6	29.6
Food and Kindred Products	4,968	2.6	4.9
Other Industries	17,377	9.1	4.7
All Industries, Total	191,605	100.0	20.3

[a]Source: Files of the Chicago and Eastern Illinois Railroad (1955) and the Chicago Plan Commission Industrial Land Use Survey.
[b]Source: U.S. Census of Manufactures, Preliminary Report, 1954. Although taken a year earlier, the census data are generally comparable with the Calumet data.

MANUFACTURING ANALYZED BY SECTOR

The Calumet Area has been divided into four primary sectors for purposes of analysis, as shown in Figure 3. The four sectors have been delineated by postal zones within Chicago and by major suburban municipalities or aggregation of municipalities and unincorporated area outside Chicago. Each of the four sectors is somewhat unique in terms of the land use characteristics and planning problems involved. Sector I encompasses the area in the southern part of the city of Chicago focusing on the heavy industrial concentrations along the Calumet River and Lake Calumet. This sector further subdivides into two primary concentrations of industry. Sector I-A contains a belt of industries extending from Calumet Harbor at the mouth of the Calumet River on Lake Michigan, southwest along the Calumet River to 122nd Street. These industries are essentially water oriented, shipping large commodity movements by water. As noted in Chapter II, Calumet Harbor and the Calumet River together presently con-

CALUMET INDUSTRIAL AREA SECTORS

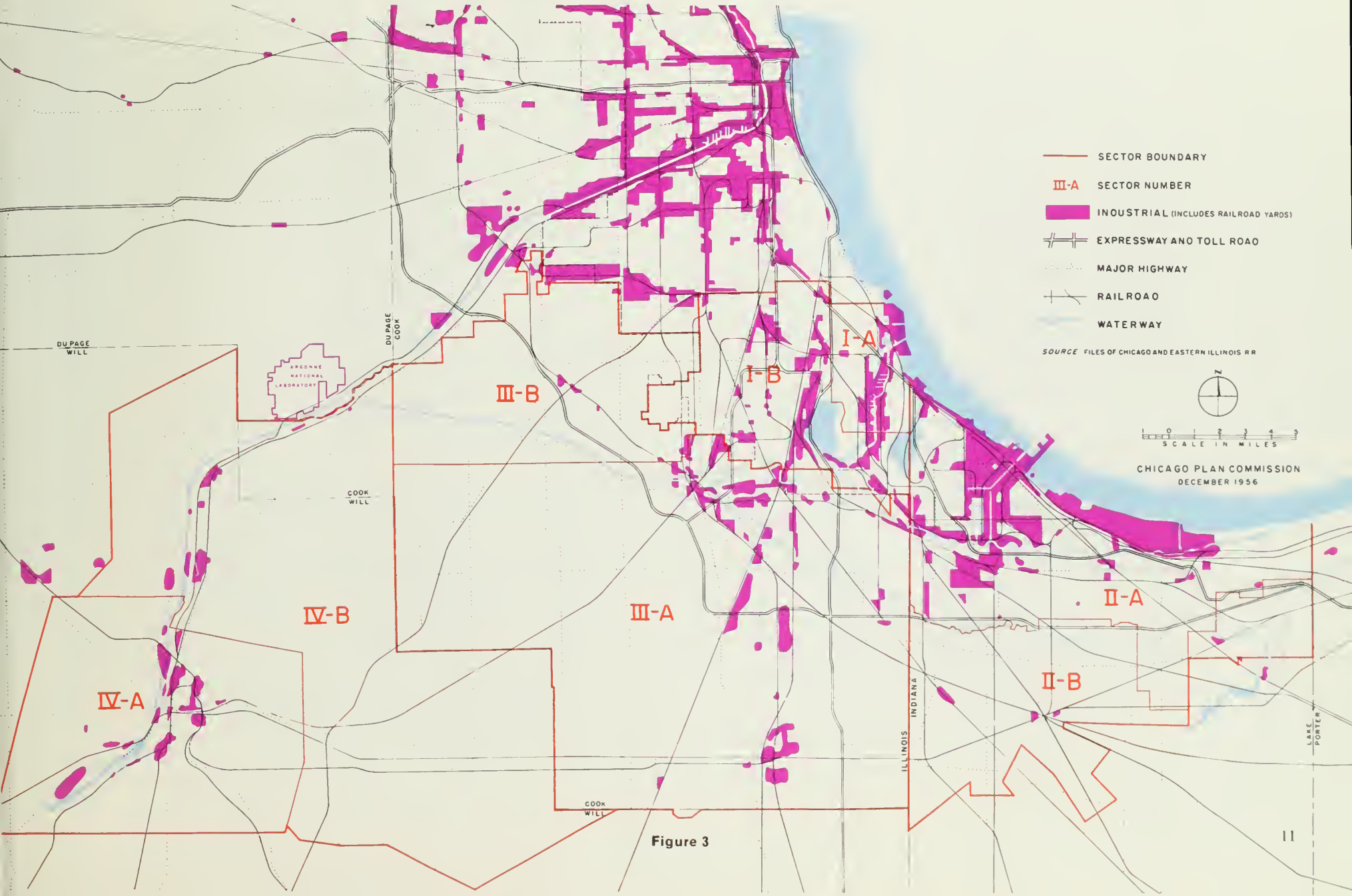


Figure 3

stitute the principal port of the Chicago area. Industries having sites along Calumet Harbor and River are accessible to lake and ocean shipping as well as the smaller inland waterway barges.

Sector I-B contains those industries located south of 122nd Street and in a belt extending from the western shore of Lake Calumet in a northwestern and southwestern direction. These industries have little dependence upon water transportation. This situation can be expected to change when the harbor in Lake Calumet is completed and deep water sites are available on filled land in Lake Calumet.

Sector II contains the huge concentrations of heavy industry and related residential development extending in a southeastern direction from the city and state lines into Lake County, Indiana. Lying within Sector II-A are a layer of four municipalities fronting on Lake Michigan, (Hammond, East Chicago, Whiting, Gary). Within this sub-sector are two types of industries. A belt of industries lying along the shores of Lake Michigan share a locational characteristic with the industries of Sector I-A in that they enjoy and are highly dependent upon water transportation. These industries are concentrated around three lake-front harbors: Indiana, Buffinton, and Gary Harbors (Figures 1 and 13). A second layer of industries are less dependent upon water transportation.

The Lake County concentration together with Chicago's industries in Sector I constitute one huge industrial belt comprising the broad economic base upon which rests an appreciable part of the economic activity of the Metropolitan Area. These industries furnish jobs for almost 150,000 persons or 78 per cent of all manufacturing employees in the Calumet Area. From this industrial base flows much of the population and business growth of the Calumet Area.

Sector II-B, containing less than 1,000 industrial jobs, is largely a residential area for workers in the industries in Sector II-A and the other parts of the Calumet Area. This sub-sector contains the municipalities of Highland, Griffith, East Gary, and other Lake County suburbs.

Sector III consists of a large segment of southern Cook County extending due south of Chicago. Sector III-A contains one of the primary suburban spokes radiating from the city of Chicago. These municipalities are primarily strung along the electrified line of the Illinois Central System. In this sub-sector are a moderate concentration of fairly diversified industries as well as a residential population an appreciable number of whom have a strong work orientation toward employment centers outside the Calumet Area. The developed areas of Sector III-B are essentially residential in character but a large proportion of this area is presently forest preserve and open farm land bisected by the Calumet-Sag Channel. The present employment of all manufacturing plants in this zone is only 500. The completion of the widening of the Calumet-Sag Channel will doubtless result in an appreciable increase in industrial development in this area. Here rapid future population growth can also be expected to occur as a result of new industrial development as well as a process of spilling over of the population from the growing communities to the east.

Sector IV consists of the city of Joliet (Sector IV-A), a port on the Illinois Lakes-to-Gulf Waterway, and the northeastern part of Will County (Sector IV-B). Joliet with an industrial base of over 13,000 workers and the remainder of this sector are tied to the other parts of the Calumet Area by financial and other bonds as well as the Chicago Sanitary and Ship Canal and the Calumet-Sag Channel.

Of the estimated resident labor force in the Calumet Area of 538,000 in 1955, the greatest concentration is in south Chicago (Sector I) and north Lake County, Indiana (Sector II-A) with an expected decline in the resident labor force concentration in the outer sectors of the Area (Table 5). However, it is estimated that the population and labor force is increasing more rapidly in outlying sectors in south Cook County (Sector III) and Lake County (Sector II-B) as shown in Table 6. It can be anticipated that a continuation of this trend will radically change the population distribution within the Calumet Area with a resultant change in transportation patterns.

Within the Calumet Area are an estimated 374,000 jobs in various types of activities of which an estimated 192,000, or 51 per cent,

Table 5. Estimated Resident Population, Labor Force, and Employment in Calumet Area, 1955[a]

Location	Estimated Population		Estimated Resident Labor Force		Estimated Total Number Persons Employed in Sector	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Sector I	488,308	37.5	212,964	39.5	107,259	28.7
A	115,731	8.9	50,119	9.3	41,118	11.0
B	372,577	28.6	162,845	30.2	66,141	17.7
Sector II	377,537	29.0	159,407	29.6	171,049	45.7
A	329,604	25.3	142,096	26.4	161,913	43.3
B	47,933	3.7	17,311	3.2	9,136	2.4
Sector III	312,130	24.0	116,560	21.6	57,226	15.3
A	250,505	19.2	93,557	17.3	49,740	13.3
B	61,625	4.7	23,003	4.2	7,486	2.0
Sector IV	120,837	9.3	48,857	9.0	38,643	10.3
A	82,566	6.3	34,544	6.4	29,181	7.8
B	38,271	2.9	14,313	2.6	9,462	2.5
Total	1,298,812	100.0	537,788	100.0	374,177	100.0

[a]Source: Files of the Chicago and Eastern Illinois Railroad.

Table 7. Estimated Total Employment and Manufacturing Employment in Calumet Area, 1955[a]

	Mfg. Employment		Total Employment		Per Cent Mfg. of Total Employment
	Number	Per Cent	Number	Per Cent	
Sector I	47,777	24.9	107,259	28.7	44.5
A	27,051	14.1	41,118	11.0	65.8
B	20,726	10.8	66,141	17.7	31.3
Sector II	101,953	53.2	171,049	45.7	59.6
A	100,966	52.7	161,913	43.3	62.4
B	987	0.5	9,136	2.4	10.8
Sector III	22,338	11.7	57,226	15.3	39.0
A	21,831	11.4	49,740	13.3	43.9
B	507	0.3	7,486	2.0	6.8
Sector IV	19,537	10.2	38,643	10.3	50.6
A	13,331	7.0	29,181	7.8	45.7
B	6,206	3.2	9,462	2.5	65.6
Total	191,605	100.0	374,177	100.0	51.2

[a]Source: Files of Chicago and Eastern Illinois Railroad.

Table 6. Estimated Population and Labor Force Increase in the Calumet Area, 1950-1955[a]

Location	POPULATION				LABOR FORCE			
	1950	1955 Estimated	Change 1950-1955		1950	1955 Estimated	Change 1950-1955	
	Number	Number	Number	Per Cent	Number	Number	Number	Per Cent
Sector I	444,552	488,308	43,756	9.8	194,307	212,964	18,657	9.6
A	105,971	115,731	9,760	9.2	45,892	50,119	4,227	9.2
B	338,581	372,577	33,996	10.0	148,415	162,845	14,430	9.7
Sector II	323,291	377,537	54,246	16.7	137,067	159,407	22,340	16.2
A	285,437	329,604	44,167	15.4	123,463	142,096	18,633	15.0
B	37,854	47,933	10,079	26.6	13,604	17,311	3,707	27.2
Sector III	229,634	312,130	82,496	35.9	88,162	116,560	28,398	32.2
A	182,763	250,505	67,742	37.0	70,755	93,557	22,802	24.3
B	46,871	61,625	14,754	31.4	17,407	23,003	5,596	32.1
Sector IV	108,661	120,837	12,176	11.2	44,042	48,857	4,815	10.9
A	76,699	82,566	5,867	7.6	32,089	34,544	2,455	7.6
B	31,962	38,271	6,309	19.7	11,953	14,313	2,360	19.7
Total	1,106,385	1,298,812	192,274	17.3	463,578	537,788	74,210	16.0

[a]Sources: U.S. Census of Population and Housing, 1950
Files of the Chicago and Eastern Illinois Railroad

are employed in manufacturing (Table 7). The primary employment centers for all types of employment as well as manufacturing are south Chicago and Lake County where almost three-fourths of all jobs are concentrated. This manufacturing employment concentration of nearly one-fifth of a million is already distributed so that slightly over half of the workers are employed in northern Lake County, Indiana, about one-fourth are employed within the city of Chicago south of 79th Street, about one-tenth in south Cook County suburbs and about one-tenth in Joliet and vicinity. According to Table 7, of the 192,000 total manufacturing employment in the Calumet Area, 101,000 workers or 53 per cent are employed in Sector II-A which is composed of four municipalities along the Lake Michigan shore of northern Lake County, Indiana (East Chicago 44,000, Gary 39,000, Hammond and Whiting about 10,000 each). The second ranking area in terms of employment concentration is Sector I-A along the Calumet River within the city of Chicago where 27,000 manufacturing workers are employed. The third ranking area is Joliet, Sector IV-A, with 13,000 workers at the extreme southwestern extremity of the Calumet Area. Local areas with medium concentrations of employment are Chicago Heights, 7,500; Harvey, 6,700; and northeastern Will County, 6,200. Local areas with 3,000 to 5,500 manufacturing employees include the remaining zones of Chicago, Harvey suburbs and Blue Island.

The degree of concentration of employment in manufacturing in the Calumet Area (51 per cent) is appreciably greater than the Metropolitan Area average (39 per cent). All of the parts of the Calumet Area exceed the Metropolitan Area average except southwestern Cook County (Sector III-B) and southern Lake County (Sector II-B). The most highly industrialized parts of the Calumet Area are southeastern Chicago (Sector I-A), northern Lake County (Sector II-A) and northeastern Will County (IV-B). In each of these areas almost two-thirds of all jobs are in manufacturing.

LOCATIONAL CHARACTERISTICS OF THE EIGHT DOMINANT MANUFACTURING INDUSTRIES

The eight dominant manufacturing industries noted in Table 4 which represent 91 per cent of the manufacturing employment in the Calumet Area were selected for further analysis in order to isolate factors significant in plant location. The concentration of employment for all manufacturing activities in the Calumet Area as well as for each of the eight leading industries is shown in Figures 4 to 12.[16] The employment data is for the first quarter of 1955 and does not reflect increases in employment since that time, especially a 40 per cent increase in the Transportation Equipment industry due to a recently located automotive plant in the Calumet Area.

An analysis of industrial locations in the Calumet Area (Table 8) reveals at least five distinct characteristics of the industrial land use pattern in the Calumet Area:

(1) The most obvious characteristic is the degree of concentration of the Primary Metal Industries, principally the basic steel industry, on deep water sites along Lake Michigan in Gary and East Chicago and the inland extension of Lake Michigan, the Calumet River in Chicago.

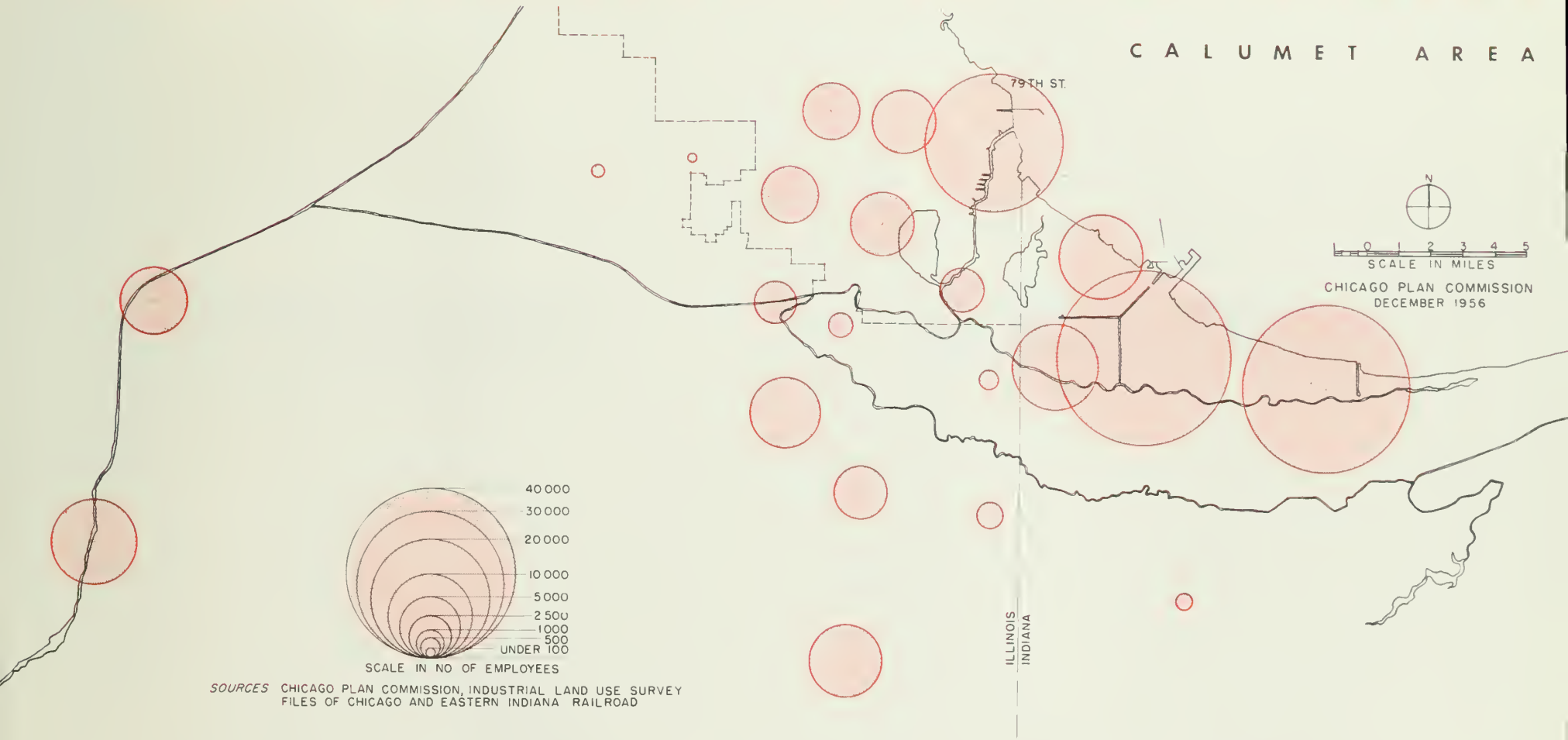
(2) The major petroleum refineries are located in Whiting and East Chicago with direct or pipe-line access to the deep-water Indiana Harbor Canal, but the industry localized there for several reasons including the permissive attitude of these municipalities toward heavy industry.

(3) The Calumet-Sag Channel has attracted the following types of industries: petroleum refineries and storage (medium-sized), Chemical, and the Stone, Clay, and Glass industries.

(4) The Transportation Equipment industry was one of the early industries in the Calumet area and the concentration of such activities has been increased in recent years by automotive plants locating there. Advantages offered by the Calumet Area were large tracts of industrial land, a variety of transportation facilities, and the proximity of suppliers of basic steel.

(5) Industries other than the five discussed in the preceding paragraphs appear to have "footloose" locational characteristics.

[16]Data are sometimes shown totalled for more than one municipality to avoid disclosure of individual establishment employment.



Total employment—192,000, representing 20.3 per cent of the manufacturing employment in the Chicago Metropolitan Area. The heaviest concentration, over 50 per cent, is located in northern Lake County, Indiana, including the municipalities of East Chicago, Gary, Hammond, and Whiting. The next heaviest concentration is along the Calumet River inside Chicago, about 14 per cent, followed by Joliet, 7 per cent; Chicago Heights, 4 per cent; Harvey, 3.5 per cent and Will County outside of Joliet, 3 per cent. The remaining local areas all have less than 3 per cent of the Calumet manufacturing employment.

Figure 4

PRIMARY METAL PRODUCTS EMPLOYMENT

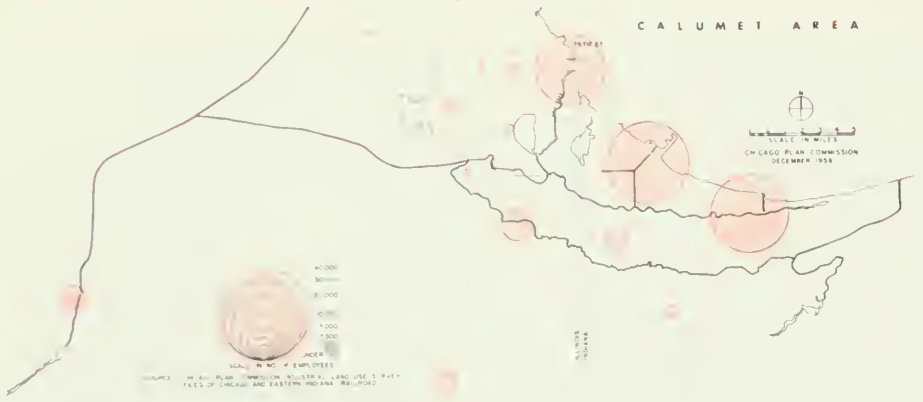


Figure 5

Total employment—100,000, 52 per cent of the Calumet Area manufacturing employment. Almost two-thirds of this employment is located in northern Lake County, Indiana, with 24 per cent along the Calumet River in Chicago. Most of the remaining employment is in the south Cook County municipalities and Joliet.

PETROLEUM AND COAL PRODUCTS EMPLOYMENT

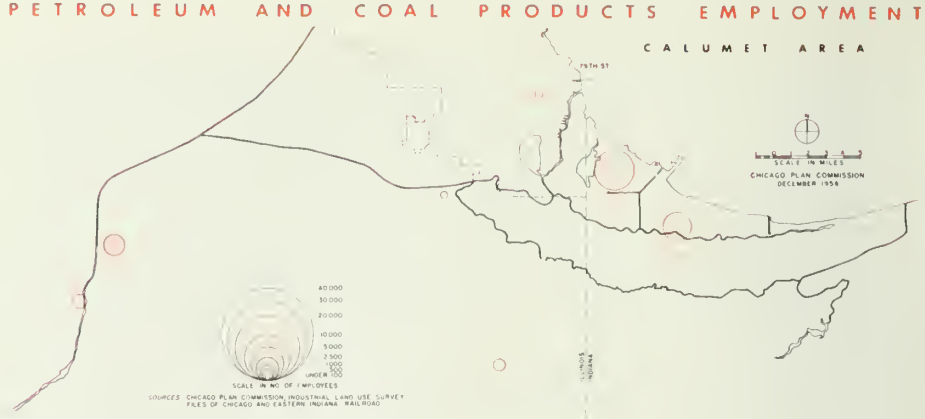


Figure 6

Total employment—16,000, 8.4 per cent of the Calumet Area manufacturing employment. Highest concentration (73 per cent) in Whiting and East Chicago, Indiana. Joliet contains 19 per cent and Blue Island 6 per cent.

NON-ELECTRICAL MACHINERY EMPLOYMENT

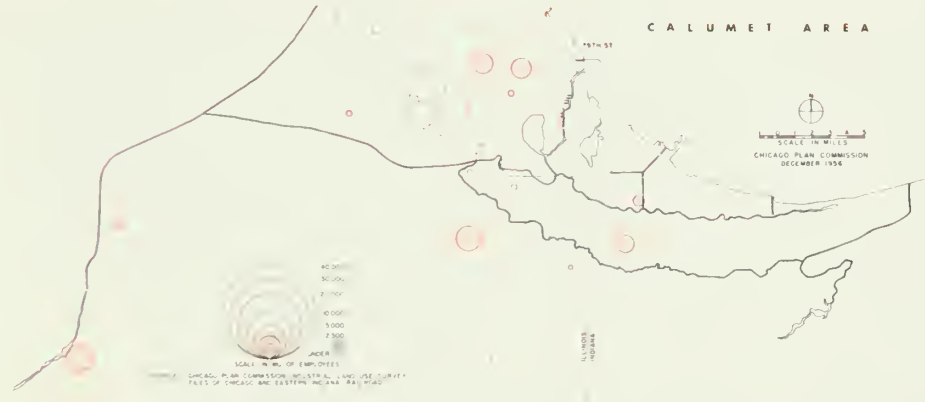


Figure 7

Total employment—14,000, 7.2 per cent of the Calumet Area manufacturing employment. Concentrated in areas away from Primary Metal Industries, thus low concentration of employment in northern Lake County, Indiana (15 per cent) and along the Calumet River in Chicago. High concentration in Chicago west of Lake Calumet (30 per cent), Joliet (25 per cent), and the south Cook County municipalities (23 per cent).

FABRICATED METAL PRODUCTS EMPLOYMENT

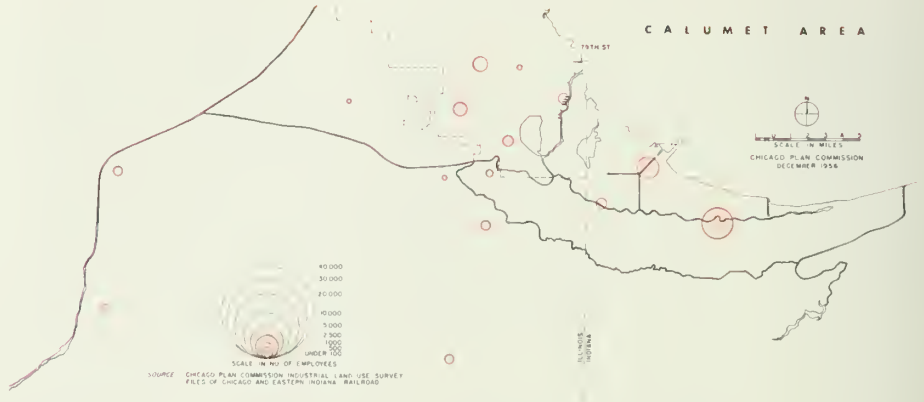


Figure 8

Total employment—13,000, 6.6 per cent of the Calumet Area manufacturing employment. Of this employment, 60 per cent is in northern Lake County, Indiana; Chicago, west of Lake Calumet has 20 per cent, and south Cook County suburbs, 10 per cent. Closely related to the Primary Metal Industries, but location is not rigidly controlled by such.

CHEMICALS AND ALLIED PRODUCTS EMPLOYMENT

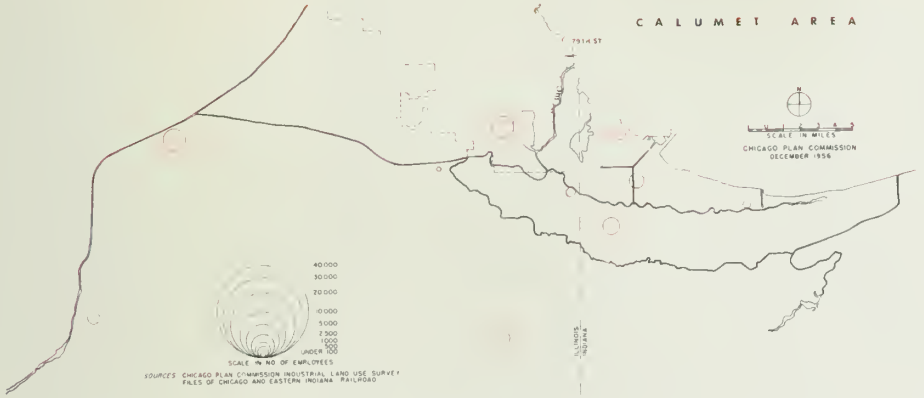


Figure 9

Total employment—12,000, 6.1 per cent of Calumet Area manufacturing employment. Highest concentration in Northern Lake County, Indiana (29 per cent), followed by the south Cook County municipalities (24 per cent), Chicago, west of Lake Calumet (20 per cent), and Will County outside of Joliet (19 per cent). Chemical storage and transfer is closely orientated to water transportation, whereas chemical manufacturing is not necessarily.

TRANSPORTATION EQUIPMENT EMPLOYMENT

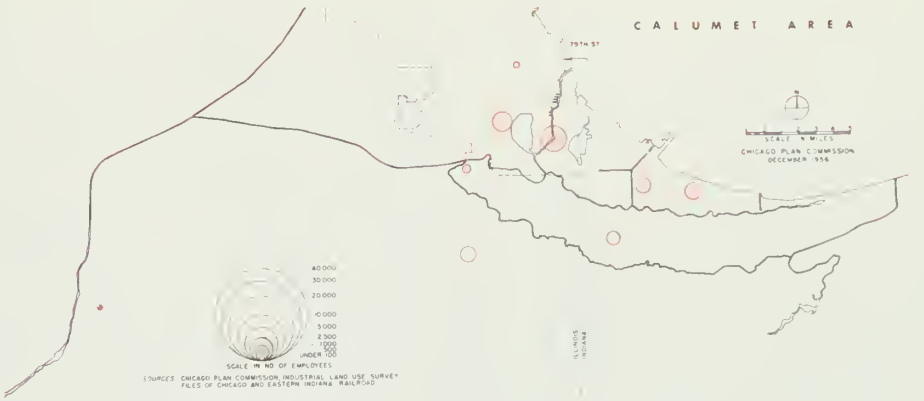


Figure 10

Total employment—10,000, 5.6 per cent of the Calumet Area manufacturing employment. Highest concentration in Chicago west of Lake Calumet (48 per cent), northern Lake County, Indiana (33 per cent), Evergreen Park-Oaklawn Area (16 per cent). The orientation of this industry is more to rail than to water transportation.

STONE, CLAY AND GLASS PRODUCTS EMPLOYMENT

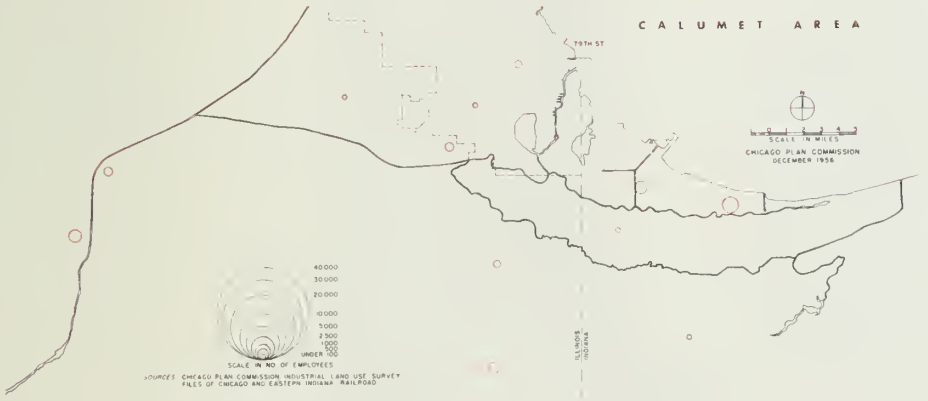


Figure 11

Total employment—5,023, 2.6 per cent of the Calumet Area manufacturing employment. Northern Lake County, Indiana has the highest concentration of manufacturing employment (42 per cent), the second highest, south Cook County (25 per cent), and the third highest, the Joliet area (15 per cent). This industry is highly orientated to water transportation as witnessed by its location near Lake Michigan and along the Calumet-Sag Channel.

FOOD AND KINDRED PRODUCTS EMPLOYMENT

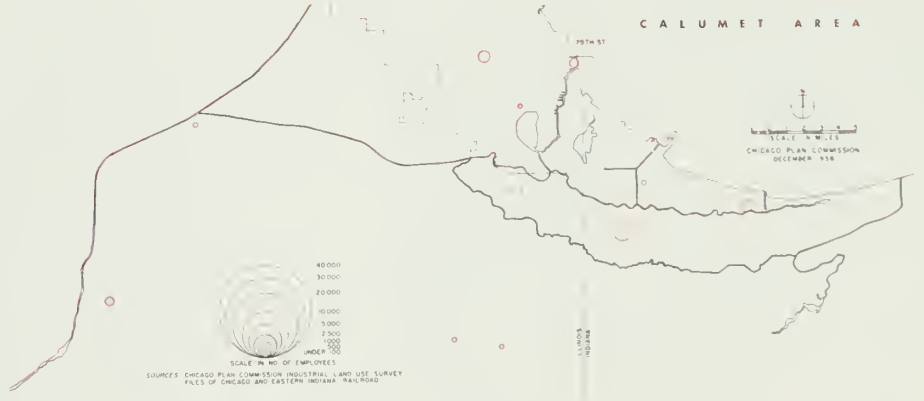


Figure 12

Total employment—5,000, 2.6 per cent of the Calumet Area manufacturing employment. Northern Lake County, Indiana again has the highest concentration of employment in this industry group (50 per cent). South Cook County and Chicago west of Lake Calumet each have 15 per cent of this employment. The Calumet River area in Chicago and the Joliet area each have 9 per cent of the employment.

Areas of the Calumet not directly associated with lake or inland water transportation appear to share to a limited extent in the general industrial distribution within the Metropolitan Area.

A more detailed analysis of the locational characteristics of these eight industries is contained in Table 9. Each industry is rated as to its transportation, site size, and zoning requirements. The ratings are self explanatory except in the case of zoning requirements. The non-noxious industries with high performance have great flexibility in industrial location since they qualify for location in one of several zones. Conversely, the industries with low performance are relegated to the "heavy" industrial zone and so have little flexibility.

The industry with least flexibility is the Petroleum and Coal Products industry, followed by the Chemical, Primary Metal, and Stone, Clay, and Glass Products industries. The locational needs of the Non-electrical Machinery, Fabricated Metal, Food, and Transportation Equipment industries are somewhat more flexible.

Table 8.

Percentage Distribution of Manufacturing Employment in the Calumet Area by Major Industry Group and Sector, 1955[a]

	INDUSTRY GROUP										
										Total, All Industries	
Sector	Primary Metal Industries	Petroleum and Coal Products	Non-Electrical Machinery	Fabricated Metal Products	Chemical and Allied Products	Transportation Equipment	Stone, Clay and Glass Products	Food and Kindred Products	Sub Total	Per Cent	No.
I	54.2	0.7	9.1	6.3	5.2	10.6	1.0	2.5	89.6	100.0	47,777
A	87.5	1.1	0.6	1.8	0.6	1.0	0.3	1.7	94.6	100.0	27,051
B	10.8	0.1	20.3	12.3	11.2	23.2	1.9	3.6	83.4	100.0	20,726
II	63.1	11.4	2.0	7.3	3.4	3.2	2.1	2.4	94 9	100.0	101,953
A	63.0	11.5	2.0	7.4	3.4	3.3	2.1	2.4	95.1	100.0	100,966
B	67.0	....	....	....	9.2	....	7.4	...	83.6	100.0	987
III	31.2	4.2	15.2	5.8	12.7	7.1	5.7	3.5	85.4	100.0	22,338
A	32.0	4.3	14.7	5.8	13.0	7.3	5.7	3.6	86.4	100.0	21,831
B	....	....	38.1	4.5	....	....	3.9	...	46.5	100.0	507
IV	13.8	15.8	20.7	4.1	15.3	0.6	5.7	2.7	78.8	100.0	19,537
A	20.3	7.4	26.4	3.0	5.4	0.9	5.6	3.0	72.0	100.0	13,331
B	....	33.9	8.8	6.4	35.9	....	5.8	2.1	92.9	100.0	6,206
Total, All Sectors	52.1	8.4	7.2	6.6	6.1	5.3	2.6	2.6	90.9	100.0	191,605

[a]Source: Files of the Chicago and Eastern Illinois Railroad.

Table 9. Location Characteristics of the Major Industries in the Calumet Area, 1955

	MAJOR INDUSTRY GROUP															
	Primary Metal Products		Petroleum and Coal Products		Machinery (except electrical)		Fabricated Metal Products		Chemicals and Allied Products		Transportation Equipment		Stone, Clay and Glass Products		Food and Kindred Products	
Location Factor	Present	Future	Present	Future	Present	Future	Present	Future	Present	Future	Present	Future	Present	Future	Present	Future
Transportation Utilization (3, High; 2, Medium; 1, Low; 0, None)																
Lake and Ocean Waterway	3	3	3	3	0	1	0	0	2	2	1	1	2	2	2	3
Inland Waterway	1	2	3	3	0	1	0	1	3	3	1	1	3	3	3	3
Rail	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Expressway	1	3	1	3	1	3	1	2	1	2	2	3	1	2	1	1
Site Size (3, Large; 2, Medium, 1, Small)	3	3	3	3	2	2	1	2	3	3	3	3	2	2	2	2
Zoning Requirements (Performance Standards) (3, Low; 2, Medium; 1, High)	3	3	3	3	2	1	2	1	3	3	2	2	3	3	2	1
Total Points	14	17	16	18	8	11	7	9	15	16	12	13	14	15	13	13

WAREHOUSING, DISTRIBUTION, AND OTHER HEAVY COMMERCIAL USES

Somewhere between the retail store and the industrial complex lies a vast area of activity known here as "heavy commercial". In the Calumet Area, its principal functions include wholesale, warehousing, transfer, distribution, and freight forwarding. The basic manufacture of goods and the retail sale of such items to the general public is not involved.

The great diversity and almost constant change within these various fields has thus far discouraged any definitive analysis of the factors and trends involved. It is obvious, however, that such heavy commercial activities account for a large percentage of the total employment and represent a tremendous investment in land and capital. Their importance must not be overlooked in a realistic appraisal of the Calumet Area and its development potential.

The Illinois State Employment Service estimates that in the five Illinois counties of the Metropolitan Area there are 1,125 firms employing 42,782 persons in trucking and warehousing activities.[17] Local and long distance trucking alone accounts for over 85 per cent of the persons employed in this group. A total of 119 firms employ 3,565 persons in services allied to transportation (freight forwarding, transportation agencies, and railroad car rentals).

Wholesale activities, according to the 1954 Census of Business, employ 151,773 persons in 10,898 various establishments in the six-county Metropolitan Area (including Lake County, Indiana).

A total of the available figures for these three major groupings indicates that the Chicago Metropolitan Area contains well over 12,000 establishments employing 200,000 persons. A major portion of this employment is linked locationally and functionally with industrial activity of the Calumet Area.

Of special interest is the increasing number and magnitude of transfer establishments. The unique transportation complex of the Calumet Area has encouraged installation of all types of water transfer, water to land transfer and land transfer. For example, a new installation on the Calumet River at 101st Street is capable of loading coal from rail cars to lake freighters at the rate of 70,000 tons per day. In 1955, the total volume of coal thus transferred was in excess of 5 million tons.

Cargo transfer by the "piggy-back" system is being more widely used in rail-ship transfers as well as rail-truck movements.

Increased efficiency in transfer operations as well as wholesaling and warehousing activities is resulting from the use of pallet loading techniques, conveyor systems, electronic devices, specialized carriers and containers, and improved methods of stacking, storing, and handling.

In past years the field of heavy commercial activity has been subject to considerable change and expansion. New products and technology have created, eliminated, or modified scores of related establishments. The consolidation and simplification of processes has to a degree helped to counterbalance a progressive trend toward specialization.

At this point, speculations about the heavy commercial field must remain highly generalized. But it is quite safe to assume that its functional inportance will remain high, that it will undergo considerable change and expansion in the Calumet Area, and that its tendencies toward specialization, consolidation, and automation will continue at an accelerated pace.

New methods and technology in the heavy commercial field are well illustrated by the Calumet Industrial District which is engaged primarily in the transfer, storage, and distribution of products on a large scale, high speed, low cost basis.

Huge multi-purpose warehouses have been built by the company and leased to various industrial concerns. Shipments of a single commodity are received by freight car load, transferred, stored, and later shipped by truck or rail to all parts of the Midwest. Handling costs are reduced to a minimum by efficient methods and modern equipment.

Warehouses are built with "drive-in" facilities for both rail cars

[17]These figures represent an average for the first six months of 1955 in the Chicago Metropolitan Area *excluding* Lake County, Indiana.

and trucks thus eliminating all unnecessary handling costs. Within the warehouses, fork lift trucks and radio controlled pick-up carts effect further savings in time and labor.

For less than car load outbound rail shipments, a compartmented rail car may be used. In this way several types of products may be loaded in one car and shipped to the same destination. Shippers (by truck, rail or barge) may use large rubber tanks for movement of liquids and granular solids with a minimum of loss or spoilage. Inflatable rubber warehouses are available for large-scale temporary storage.

Outside the warehouse, new transfer techniques are being utilized. Ship to barge, barge to rail, and barge to truck installations reduce the time, labor, and damage involved in the handling of all types of products.

The function of transfer and storage is not new, but the large-scale application of new methods and materials will vitally affect transfer and storage operations. This development foretells an increasing degree of automation throughout the heavy commercial field. Such giant service operations closely allied with industry should have a good potential in the Calumet Area.

INDUSTRY'S PROSPECTS

This section contains a brief review of the outlook for the major types of industries likely to locate in the Calumet Area. Studies are being made of new types of industries which may choose to locate in the Calumet Area as well as of each of the eight predominant industry groups presently in the Area. While a quantitative determination can be made only with much more intensive study, some tentative statements can be made regarding the general outlook for increase in land utilization and employment. Since the steel industry is the Area's predominant industry, a few paragraphs are first devoted specifically to it.

As a steel producing area, the Calumet Area recently expanded its capacity substantially as a result of expansion programs within the past two years. The Chicago area is known as having a higher steel demand than present production and is classified as a "steel short" area. The Calumet steel industry enjoys the major advantage of low cost lake transportation, a large immediate market, a plentiful supply of cooling water, and a continual program of modernizing steel producing facilities.

A key to the future land needs and expansion of employment opportunities in the steel industry (as well as other industries) is the recent trend in increases in productivity. For example, the recent expansion of one of Chicago's steel mills was accomplished with a resultant appreciable increase in steel output but with no change in either employment or in the plant site area. Meanwhile a study of national trends in productivity in the basic steel industry has just been released and provides some insights into this complex question.[18]

Trends in productivity in the basic steel industry are compared with like measures for all manufacturing from 1919 to 1939 and from 1939 to 1953 in Table 10. In comparison with all manufacturing, the steel industry has shown a higher average annual increase in productivity for both periods. The period of greatest average annual increase in productivity for both the steel industry and all manufacturing was from 1919 to 1929 when steel recorded a 5.9 per cent average annual increase and all manufacturing 5.0 per cent. In the period 1939-1953, steel had an annual percentage increase of 2.8 and all manufacturing 1.8.[19]

Changes in the productivity are due to a variety of factors including changes in technology, the rate of operation, organization of the flow of materials, the labor force skill and efforts, and management efficiency. One of the outstanding changes in technology in steel mill operations beginning in the 1920's has been the substitution of electrical power for steam power, and in some cases hand power. The increased power and controls at a worker's command have in turn resulted in larger and more efficient equipment. The real impact of the developments of automation since World War II has yet to be felt in the steel and other industries.

[18]United States Department of Labor, Bureau of Labor Statistics, *Man-Hours per Unit of Output in the Basic Steel Industry 1939-1955*, Bulletin No. 1200. Washington: U.S. Government Printing Office, September, 1956.
[19]The Bureau of Labor Statistics reports that the measures used for 1919 to 1939 are not strictly comparable for the later period.

Table 10. Average Annual Per Cent Decrease in Man-hours per Unit of Output in the Basic Steel Industry and in All Manufacturing, 1919-1955[a]

	Steel		All Manufacturing	
Time Period	Long Period	Short Period	Long Period	Short Period
1919-1939	3.6		3.3	
1919-1929		5.9		5.0
1929-1939		3.1		2.2
1939-1955	2.7		[b]	
1939-1953	2 8		1.8	
1939-1947		2.8		0.5
1947-1953		3.2		3.3
1947-1955		2.8		[b]

[a]Source: United States Department of Labor, Bureau of Labor Statistics, *Man-Hours per Unit of Output in the Basic Steel Industry 1939-1955*, Bulletin No. 1200. Washington: U.S. Government Printing Office, September, 1956. Data for 1919-39 and 1939-55 are not strictly comparable.
[b]Data not available.

In addition to the expansion of the Primary Metal Industries the Chemical industry and various elements of the Petroleum and Coal industries will undoubtedly expand with an increasing variety of products. Expansion of aluminum fabricating as well as other metal fabricating is likely to occur in addition to steel expansion. The Non-electrical Machinery industry appears to have a fair potential for expansion. Perhaps one of the most marked increases may occur within the Transportation Equipment industry as exemplified by the recent expansion of the automotive production industry. Accompanying all these potential industrial expansions will be the growth of storage and transfer operations which may expand more rapidly in terms of increased land use than any given type of manufacturing activity. The expansion of power developments by conventional thermal sources, as well as nuclear sources, can be expected to continue in the Area.

Types of industries that are likely to find the Calumet Area particularly attractive may include meat packing, sugar refining, and grain processing. In addition to the Food industry, the Printing and Publishing industry may expand from its already strong base in Hammond and Joliet. The impact of developments in the field of nucleonics is just beginning. The Calumet Area is the site for a nuclear power generator southwest of Joliet along the Illinois Waterway.

Although output in many types of industries is likely to expand substantially, the land and employment increases may not be in direct proportion to the output increase. Technological advances including recent developments in automation are too new to assess their full impact on land and employment needs. Continued investigation of that impact is required.

PROSPECTS FOR CHICAGO'S PART OF THE CALUMET AREA

Because of the concentration of the current port and waterway projects and the vast tracts of potential industrial land inside its municipal boundaries as well as the necessity for developing realistic public works programs for this area as soon as possible, an intensive study was made of the growth potential of Chicago's part of the Calumet Area.

The analysis was made within the framework of the national, metropolitan, and city-wide trends reviewed previously as well as the locational advantages and disadvantages of the Calumet Area. In addition, the following studies were made:

(1) An analysis of the probable impact of the St. Lawrence Seaway, the widened Calumet-Sag Channel, and the new harbor in Lake Calumet in spurring industrial and related development in the Calumet Area.

(2) A review of the comparative advantages of Chicago's part of the Calumet Area.

(3) An evaluation of recent trends in industrial expansion in Chicago's part of the Calumet Area. In recent years an average of approximately 40 acres per year were put to industrial use.

(4) A survey of the supply of vacant land suitable for industrial use in the Calumet Area and the remainder of Chicago.

(5) An evaluation of the marketability of the various tracts of land in the Area. Unfortunately, because of poor accessibility, drainage problems, etc., there is a wide range in the marketability of the land. In collaboration with the staff of the Territorial Information Department of the Commonwealth Edison and Public Service Companies, all vacant land in the Area was given

one of three following ratings which were then modified on the basis of proximity to Lake Calumet Harbor and other choice water-front sites:

A. A high degree of marketability.

B. A moderate degree of marketability because of poor accessibility, drainage, ownership, tax delinquency, or similar problems.

C. Poor marketability because of the above listed problems.

On the basis of these studies an estimate has been made as to likely industrial development in Chicago's part of the Calumet Area by 1970. Although this estimate is based upon the most careful study made so far of the Calumet Area, it is only a preliminary "best judgment" and should be used with reservation. At best it constitutes a point of departure for preliminary planning analysis to be modified as the Calumet study and economic base analysis jointly progress.

By 1970 an industrial development of 1,000 acres is estimated to occur in Chicago's part of the Calumet Area. In addition, it is estimated that there will be an industrial development of 500 acres on filled land in Lake Calumet as a part of the port development.

On the basis of a study of existing densities of employment and of trends in employment density of recently constructed industrial plants, a probable employment density was assigned each parcel suitable for industrial use. The aggregate of the expected employment on 1,500 acres is 35,000 persons. On the basis of this expansion of "basic" industry an additional 60,000 jobs in related "service" or "non-basic" industries can be expected to occur. This total of 95,000 new jobs is likely to generate a population ncrease of about 250,000 persons.

This estimate is likely to be on the conservative side. An important factor will be the extent of vigorous promotion of industrial development. For example, if a chemical complex chose the Calumet Area for location, 200 to 500 additional acres would likely be required. Certainly the estimate is extremely conservative by comparison with numerous astronomical estimates which have been casually tossed off, in the last two or three years of almost frantic optimism concerning the Area's potential. However, the estimated 35,000 employment increase is considerably greater than the present employment (27,000) in the six mile long concentration of steel mills and related industries extending along the Calumet River in South Chicago and is not too far below the total manufacturing employment of all of Chicago's part of the Calumet Area. This estimate will be modified upward or downward on the basis of further study outlined above.

THE GENERAL OUTLOOK

The Calumet Area possesses some unique advantages which will be significant in attracting industries in the future. These advantages include:

(1) Large tracts of comparatively inexpensive vacant land lie within the Area. Such tracts are required for large industrial operations as well as the joint siting of by-product industries. Within Chicago's portion of the Calumet Area lie approximately 5,100 acres of vacant land suitable for industrial use plus an estimated 10,000 additional acres in the suburban parts of the Calumet Area.

(2) Coupled with the large tracts of vacant land are unusual transportation advantages including a complex network of railroads and a location astride the converging deep-water traffic from the Great Lakes and the St. Lawrence Seaway and barge traffic from the Lakes-to-Gulf Waterway. As explained in Chapter II, the new harbor development in Lake Calumet plus the completion of the St. Lawrence Seaway by 1959 and the widening of the Calumet-Sag Channel by 1961 will greatly enhance the Area's competitive position by removing existing channel bottlenecks and providing excellent water transportation facilities. The expressway and toll road systems now being constructed will also improve the Calumet Area's competitive position.

(3) The virtually unlimited supply of water for industrial processes and cooling is a prime advantage shared with the remainder of the Chicago Metropolitan Area. This factor is especially significant to the Calumet Area because of the number

of heavy industries requiring a large supply of water for processing.

(4) The potential is excellent for new industries to locate in the Calumet Area in order to be linked with existing Calumet industries as suppliers or as users of supplies manufactured by existing industries. For example, one of the primary resources of the Calumet Area is the large concentration of steel mills. The Metropolitan Area has participated in the nation-wide movement of steel-fabricating industries to steel-producing centers to be close to suppliers of this basic "raw" material. Other existing or potential linkages are between the steel and cement industries and between the chemical and petroleum industries.

(5) The Calumet Area is an important part of the most rapidly expanding metropolitan area in the nation in terms of new industrial construction and will share in future metropolitan-wide growth.

(6) The market potential not only of the Chicago Metropolitan Area but the rich five-state region comprising Chicago's hinterland can be listed as another special resource of the Calumet Area.

In counter-balance the Calumet Area for years has suffered from a number of disadvantages resulting in its being called Chicago's primary industrial land use problem area. Briefly stated these adverse factors are:

(1) The need for a moderate amount of fill for much of the land bordering Lake Calumet and the primary waterways.

(2) Large tracts of land in the Calumet Area suffer from one or more of three conditions: (a) Inappropriate zoning including areas adjacent to Lake Calumet which are now zoned for residential use; (b) clouded-title, obsolete platting, and tax delinquency; (c) extensive railroad ownership of land involving rail tonnage requirements. These factors plus the cost of improving land have operated especially against the small and medium-sized industry locating in the Calumet Area.

(3) Large sections of the Calumet Area including large tracts in the city of Chicago are lacking a network of local utilities. This deficiency has had a hampering effect on industrial development.

(4) Many parts of the Calumet Area suffer from inadequate local access to potential industrial developments. As discussed in Chapter III, this results from conflict between traffic using street and at-grade rail lines plus the physical interruptions created by lakes, waterways, large blocks of industry, and poorly drained land.

(5) With the exception of the Illinois Central and the South Shore lines, which are rapid transit only in a limited sense, no rapid transit is available in the Calumet Area. The existing surface transit facilities are minimum and must be greatly expanded to meet the traffic expected to be generated by new or expanding industry.

(6) The odors, smoke, noise and other industrial nuisances created by existing industry have been a strong deterrent to "medium" and "light" industries as well as many "heavy" industries which are unwilling to locate in the midst of such an area. This is undoubtedly a major reason for the Calumet Area's being so low in the number of "medium" and "light" steel-fabricating industries which functionally should be located close-by the steel mills. Although the prevailing wind is from the southwest and carries much of the air pollution out over Lake Michigan, a southwesterly wind occurs only part of the time. The result is "blighted" industrial as well as residential areas. The Calumet Area is the only section of the outer zone of Chicago containing appreciable pockets of slum housing. Air pollution, which heavy industry is by no means solely responsible for, has been an important factor in diminishing the Calumet Area's value as an attractive place to live and locate new factories.

(7) The Calumet Area is a part of a metropolitan area suffering from a labor shortage associated in part with the housing shortage as noted earlier. In addition, large parts of the Calumet Area are beyond the areas of easy accessibility of the large pool of labor residing in the central part of Chicago. Labor recruitment is, therefore, generally more difficult. Further, there is the widespread but probably unwarranted opinion on the part of many industries that there is a greater concentration of labor with a wider range of skills residing in the northern and northwestern

parts of Chicago and adjacent suburbs.

The result of all these factors has been a general disinterest in the Calumet Area on the part of many industries which have been responsible for much of the Metropolitan Area's recent industrial expansion. Certainly an area as large as the Calumet Area should develop as an integrated area of homes, businesses, light, and medium as well as heavy industry. The future industrial potential of the Area must be assessed, therefore, not only in terms of best possible analysis of its economic base but also two other considerations: (1) the ability of the city of Chicago and the other municipalities in the Calumet Area to face realistically the fact that there are a number of adverse factors which frequently deter heavy as well as light industries and which, if not corrected by a vigorous program, are likely to result in the Area never reaching its full potential; (2) a concerted effort to publicize and promote the Area.

RECOMMENDATIONS

The Calumet Area's much discussed new cycle of growth has begun. The port and waterway improvements which are expected to play a large role in triggering this expansion are nearly complete. The recommendations that follow constitute an outline for a possible program to be carried out by joint-action of the municipalities involved and by private groups.

(1) The proper exploitation of the Area's considerable industrial potential will require a careful allocation of land for industrial use in the Greater Calumet Area. The prompt completion of the proposed metropolitan economic base study is essential to determine the amount of industrial land required. Paralleling this study should be a continuation of the Calumet Study which would conclude with a suggested plan of land use for the Area.

(2) Immediate passage of the proposed Chicago zoning ordinance which contains provisions for the rezoning from residential to industrial use of hundreds of acres of potential industrial land in and around Lake Calumet.

(3) Prompt action is required to remove some of the stumbling-blocks to industrial developed listed previously. Among the most serious problems is air pollution. Several types of actions are required: (a) An area-wide program of air pollution control must be developed since air pollution is no respecter of municipal boundaries. (b) Prompt passage of the proposed Chicago zoning ordinance containing effective controls over air pollution as well as the proposed air pollution abatement ordinance. These proposed ordinances might be used as models by other municipalities in the Area.

(4) A vigorous campaign should be conducted to attract steel-fabricators and similar Calumet-linked light and medium industries. This is desirable for three reasons: (a) The siting of such industries is functionally desirable since the traffic between supplier and user will be reduced. (b) Light industry is needed to form a buffer between heavy industrial areas and residential districts. (c) A diversification of employment opportunities is needed.

(5) As discussed previously as well as in Chapter IV, an accelerated program of housing construction in desirable communities is essential to attract and hold the labor force required for industrial growth.

(6) The public works programs of Chicago and the other municipalities in the Area must provide for the installation of utilities on industrial land where needed to serve new industry. An integrated long-range program for public improvements—streets, sewers, bridges and other public improvements—is needed. The program must be flexible enough to furnish utilities on short notice when a new industry moves into an unserved area.

(7) Careful study must be given to the possibility of increasing and extending public transportation in the Calumet Area. This problem will be discussed further in Chapter III.

(8) The loss of time and money due to the delay encountered in both the movement of people and goods is considerable due to the conflict of rail and vehicular traffic. An extensive program of providing grade separations for railroad crossings is required.

HICAGO WATERWAY ROUTES AND HARBORS

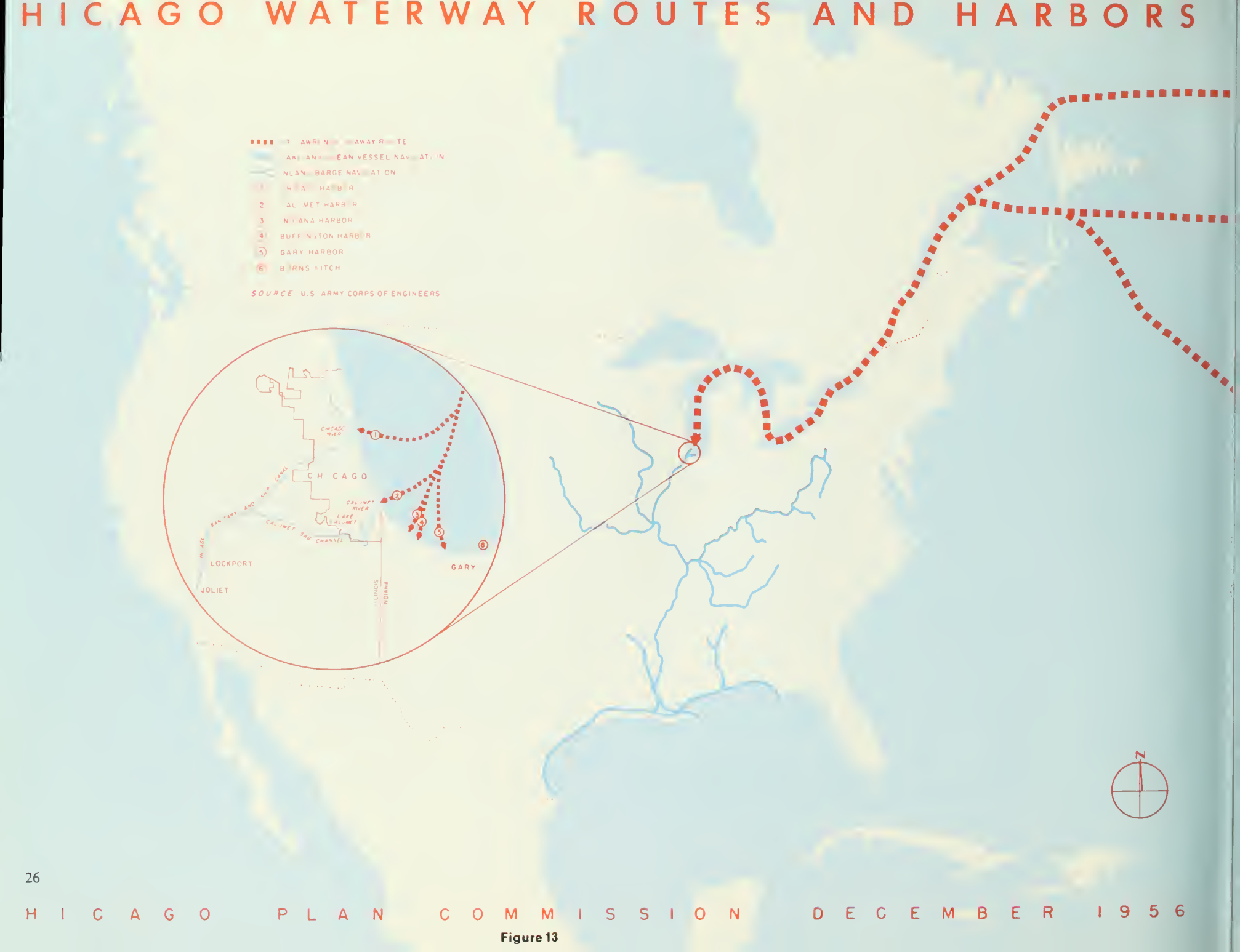


Figure 13

II PORT AND WATERWAY DEVELOPMENT

Three major waterway projects currently under construction have focused attention on Chicago area ports and waterways and especially on the Calumet Area where two of the projects and major existing port facilities are located. The prospects for the improved St. Lawrence Seaway, scheduled for completion in 1959, have spurred port development in the entire Great Lakes Area. The new Lake Calumet Harbor $24,000,000 development is scheduled for completion in April, 1957, in more than ample time to receive the added St. Lawrence Seaway traffic. The newly constructed grain elevators, transit sheds and other facilities have already changed the Lake Calumet skyline. The widening of the Calumet-Sag Channel, estimated completion date of 1961, will permit a tremendous increase in the barge traffic flowing in and out of the Calumet Area.

These three major projects have been dreams for a generation or more and their realization within the next two to four years is assured.

The two waterway projects do not provide new routes, but rather improved facilities to allow more efficient utilization of the existing waterway routes. The harbor development provides an increase in harbor facilities with the most modern in cargo handling and storage facilities and creates man-made industrial land from the bed of Lake Calumet.

The impact of the three major projects on the Calumet Area will be reinforced by general Metropolitan Area growth. The port and waterway projects have served to focus attention on the Calumet Area and to spark other developmental interests.

The basic planning significance of the three waterway and harbor projects is found in (a) the strengthening of Metropolitan Chicago as the commercial, industrial and distribution center of the Midwest, (b) the increased efficiency and potential of the waterways, (c) the added modern harbor facilities, (d) the increased acreage of industrial land created by fill, and (e) the increased dockside land for both deep-water vessel and barge. These developments will produce an increase in industrial and commercial development and employment, water-borne traffic, land traffic and all urban development.

The significance of deep-water transportation to manufacturing in the Calumet Area is documented in Chapter I which reports that the deep-water-oriented basic steel industry employs about half of the manufacturing employees in the Calumet Area. Also discussed in Chapter I are the dockside sites utilized by the petroleum, chemical and other industries.

In analyzing port and waterway development, this chapter discusses (a) waterway routes to Chicago, (b) water-borne traffic volume and commodities, (c) the Lake Calumet Harbor Plan, (d) the Calumet-Sag Channel project, (e) waterways and the Calumet Area's future, and (f) port and waterway developmental needs.[1]

CHICAGO WATERWAY ROUTES AND HARBORS

The Chicago area is served by three major waterway routes—two deep-water routes and one barge route, Figure 13. World ports are accessible to Chicago by the St. Lawrence-Great Lakes system. United States and Canadian ports are linked with Chicago by the Great Lakes waterways system. The 7,000 mile Illinois Lakes-to-Gulf Waterway barge route links Chicago with the Mississippi River System and the Gulf Intracoastal Waterway.

Major waterways and harbors of the Port of Chicago are shown on the inset map of Figure 13. Waterways in the Chicago area that normally are navigable by lake and small overseas vessels include the following waterways and/or harbors: Chicago River and part of the North and South Branches, the Calumet River, the southern end of Lake Calumet, the Indiana Harbor Canal, Buffington Harbor, and Gary Harbor.

[1]For additional information and analysis of ports and waterways in the Chicago area see: Chicago Regional Port District, *Where Two Great Waterways Meet*, The First Biennial Report of the Chicago Regional Port District Board (Chicago, 1953), and Harold M. Mayer, "Prospects and Problems of the Port of Chicago," *Economic Geography*, Vol. 31, No. 2 (April 1955), pp. 95-125.

Inland waterway barge routes in the Chicago area (inset map, Figure 13) are (1) the Chicago Sanitary and Ship Canal which joins the South Branch of the Chicago River and (2) the Calumet-Sag Channel linking the Sanitary and Ship Canal with Lake Calumet and the Calumet River via the Little Calumet River. Immediately north of Joliet at Lockport the Sanitary and Ship Canal joins the Illinois Lakes-to-Gulf Waterway. Chicago, then, is the meeting place of the inland waterway traffic and the Great Lakes-overseas traffic. Lake Calumet, the Calumet River, the Chicago River and its South Branch are the waterway junctions.

WATER-BORNE TRAFFIC VOLUME AND COMMODITIES

TRENDS 1946-1955

Spectacular increases in tonnage moving over the Sanitary and Ship Canal and the Calumet-Sag Channel have occurred in the past decade with both of these waterways having tripled their traffic volumes to 1955 totals of 16.3 and 4.5 million tons respectively (Table 11 and Figure 14). The Chicago River and its two branches have recorded about a fifty per cent increase in traffic volume in the 1946-1955 period with a 1955 tonnage of almost 3 million for the Chicago River and its North Branch and almost 5 million for the South Branch.

Over the past decade the two highest volume harbors, the Calumet River (and Harbor) and Indiana Harbor, each have doubled their total traffic volume from 1946 to 1955, Table 11. Decreases in volume in 1952 and 1954 correspond with a national decrease in steel production in those years which suggests the role of steel industry traffic in those harbors. For data on other harbors, see Table 11 and Figure 14.

TRAFFIC: 1955

Tabulations of the 1955 statistics[2] for Chicago-Calumet waterways and harbors are reported in Tables 12 to 16. Volume of traffic and leading commodities (by tonnage) are reported for the waterways and harbors of the Port of Chicago.[3] Discussion that follows analyzes traffic characteristics of the waterways and harbors of the Port of Chicago and the three harbors in Indiana.

[2]U.S. Army Corps of Engineers, *Water-borne Commerce of the United States, 1955.*

[3]The Port of Chicago as defined by the U.S. Army Corps of Engineers includes the Chicago River and its branches, Sanitary and Ship Canal, Calumet-Sag Channel, Lake Calumet, the Calumet River and Harbor and excludes the three harbors in Indiana.

Table 11. Water-borne Traffic of the Port of Chicago by Harbors and Waterways, 1946-1955[a]

CARGO IN SHORT TONS OF 2,000 POUNDS

Year	Chicago Harbor	Calumet Harbor and River	Lake Calumet	Indiana Harbor	Gary Harbor	Buffington Harbor	Chicago River Main and North Branch	Chicago River South Branch	Chicago Sanitary and Ship Canal	Calumet-Sag Channel
1946	1,259,623	13,893,268	0	11,235,372	8,629,612	876,342	1,847,737	2,815,108	5,171,142	1,093,786
1947	1,601,778	19,522,703	0	13,151,515	8,788,128	923,909	2,180,039	3,580,908	8,082,145	1,779,921
1948	1,354,619	19,064,480	0	13,894,009	8,466,063	1,101,125	2,303,958	3,876,433	9,627,491	2,092,772
1949	1,358,258	17,566,370	0	14,042,049	8,508,045	1,111,224	2,180,504	3,670,090	9,656,485	2,775,788
1950	1,238,809	21,909,084	91,829	15,696,811	9,360,260	1,139,981	2,232,933	4,338,438	12,045,910	3,223,853
1951	1,210,064	23,742,151	63,693	16,133,421	9,217,717	1,273,896	2,307,169	3,977,481	13,474,457	3,133,507
1952	1,575,867	19,595,417	160,947	15,225,630	7,029,542	1,138,605	2,356,435	4,190,846	13,094,611	3,329,166
1953	1,796,719	23,865,973	162,604	20,044,665	9,642,907	1,410,637	2,638,905	5,076,361	14,924,536	3,575,688
1954	1,883,800	18,592,794	242,643	17,407,937	9,464,366	1,414,966	2,597,893	4,595,484	14,605,645	3,762,695
1955	2,187,153	24,786,387	158,740	20,674,689	10,555,400	1,291,262	2,870,328	4,898,403	16,486,494	4,599,982

[a]Source: U.S. Army Corps of Engineers, Annual reports on the water-borne commerce of the United States, 1946 through 1955. Data is total receipts, shipments and through traffic.

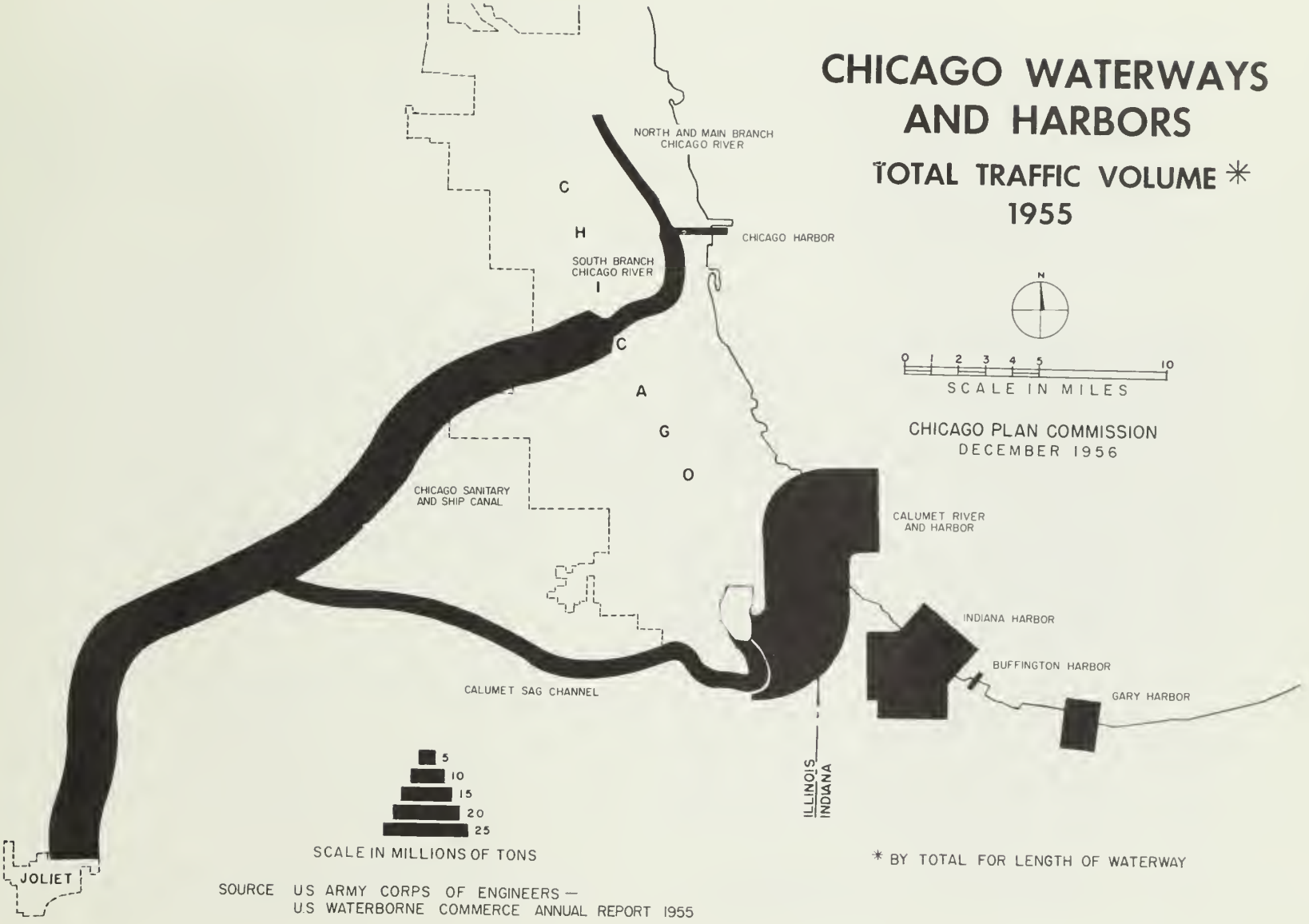

CHICAGO WATERWAYS
AND HARBORS
TOTAL TRAFFIC VOLUME *
1955
NORTH AND MAIN BRANCH
CHICAGO RIVER
CHICAGO HARBOR
SOUTH BRANCH
CHICAGO RIVER
C
H
I
C
A
G
O
N
0 1 2 3 4 5 10
SCALE IN MILES
CHICAGO PLAN COMMISSION
DECEMBER 1956
CHICAGO SANITARY
AND SHIP CANAL
CALUMET RIVER
AND HARBOR
INDIANA HARBOR
BUFFINGTON HARBOR
GARY HARBOR
CALUMET SAG CHANNEL
ILLINOIS
INDIANA
JOLIET
5
10
15
20
25
SCALE IN MILLIONS OF TONS
SOURCE US ARMY CORPS OF ENGINEERS —
US WATERBORNE COMMERCE ANNUAL REPORT 1955
* BY TOTAL FOR LENGTH OF WATERWAY

Figure 14

Table 12. Overseas Traffic Leading Commodities, Port of Chicago, 1955[a]

IMPORTS			EXPORTS		
Commodity	Tons	Per Cent of Total	Commodity	Tons	Per Cent of Total
Building Cement	20,808	21	Animal Fats, Oils and Meats	28,690	24
Liquors and Wines	14,445	15	Hides and Non-edible Animal Products	22,250	19
Fruits	5,417	6	Rolled Steel	18,766	16
Sugar	5,346	6	Animal Feeds	9,380	8
Glass Products	5,115	5	Vegetable Oils	3,209	3
Tools and Hardware	4,993	5			
Total Imports	95,374	100	Total Exports	118,521	100

[a]Excluding the Indiana Harbors.

Source: U.S. Army Corps of Engineers, *Water-borne Commerce of the United States, 1955.*

In 1955 the Great Lakes Waterway accounted for almost 80 per cent of the tonnage handled by Chicago area harbors and waterways. Overseas traffic accounted for less than one per cent of the total tonnage, and barge traffic accounted for the remaining 20 per cent. Lakewise receipts are dominately those destined for processing by the steel industry whereas lakewise shipments are dominately energy sources—rail-to-water coal and petroleum from Calumet Area refineries.

About two-thirds of the Inland Waterway receipts are energy sources—coal and petroleum—with sand and gravel, grains and chemicals composing the remainder. Petroleum products are over 40 per cent of the inland waterway shipments, steel mill products 26 per cent and corn and grains about 10 per cent.

OVERSEAS TRAFFIC

Although overseas traffic volume was less than one per cent of the Port of Chicago's total water-borne tonnage in 1955, the overseas shipments and receipts of 213,895 tons (Table 12) were of high value. The value of foreign trade (overseas and Canadian) for Chicago is reported at $115.5 million for 1955, Table 13. Growth in overseas trade has been at a rapid rate—10,324 tons in 1946, 87,128 tons in 1950 and 213,895 tons in 1955.

Testifying to the cement shortage in the Chicago area, the leading overseas import was building cement accounting for 21 per cent of imports by weight in 1955, Table 12. Liquors and wines ranked second with almost 15,000 tons or 15 per cent of the total imports. Fruits, sugar, glass products and tools and hardware each accounted for about 5 per cent of the total overseas imports.

According to Table 16a, the Calumet River terminals unloaded 47 per cent of the imports, and the Lake Calumet terminal and Chicago Harbor each received about one-fourth of the imports. The Chicago River and its North Branch received 3 per cent of the imports. Calumet River terminals and the Chicago Harbor had similar imports as leading commodities—cement, liquors and wines and sugar (Table 17).

Table 13. Value of Water-borne Foreign Trade for Selected United States Ports, 1955[a]

	Value in Millions of Dollars
New York	$7,890.4
Boston	498.8
New Orleans	1,448.2
Houston	664.1
San Francisco	541.1
Seattle	126.4
Chicago	115.5

[a]Source: U.S. Bureau of the Census, *United States Foreign Trade 1955, Summary Report*, Report No. FT985 (1956).

Overseas exports slightly exceeded imports: 118,521 to 95,374 tons (Table 12). The Chicago Harbor's share of exports, 13 per cent, was about half of its share of imports. The remainder of the exports was handled by Calumet Lake and River terminals, Table 16. Similar leading commodities were shipped by the three overseas terminals. Animal products, rolled finished steel mill products and animal feeds were among the leading commodities. See Table 13 for Chicago's relative position in value of foreign trade compared to several major ports.

GREAT LAKES CANADIAN TRAFFIC

Canadian traffic is bulk movement with newsprint and iron ore the leading imports and bituminous coal the dominant export, Table 14. The newsprint was received by the Chicago Harbor and the Chicago River South Branch; the iron ore was received at Indiana Harbor and the Calumet Harbor and River, Table 17. Coal was shipped from the Calumet River terminal.

GREAT LAKES DOMESTIC TRAFFIC

Shipments of iron ore, limestone and coal account for 67, 18 and 11 per cent respectively of Great Lakes Domestic traffic to the Port of Chicago (Table 14), and these commodities are received by the Calumet River and Harbor (Tables 16a and 17). Petroleum products are the fourth ranking receipt and terminate at all harbors except downtown Chicago and Lake Calumet.

Shipments are dominated by coal, 77.5 per cent, and petroleum products, 11.1 per cent, Table 14. The coal is shipped from the Calumet River installation, and the petroleum is shipped from the Calumet-Sag Channel and the Sanitary and Ship Canal.

INLAND WATERWAY TRAFFIC

Coal, petroleum products, sand and gravel, corn and grains, sulphur, industrial chemicals, and other products (Table 15) are received at all the terminals of the Port of Chicago (Table 17) with the Sanitary Canal receiving 55 per cent of the tonnage.

Table 14. Great Lakes Traffic Leading Commodities, Port of Chicago, 1955[a]

DOMESTIC

RECEIPTS

Commodity	Tons	Per Cent of Total
Iron Ore	10,790,841	67.0
Limestone	2,994,482	18.0
Coal	1,722,150	10.5
Petroleum Products	560,966	3.5
Building Cement	87,419	0.5
Total Receipts	16.266,535	100.0

SHIPMENTS

Commodity	Tons	Per Cent of Total
Coal	3,965,454	77.5
Petroleum Products	569,657	11.1
Sulphur	196,339	4.0
Grains	142,759	3.0
Pig Iron	76,942	1.5
Steel Mill Products	39,056	0.8
Total Shipments	5,108,187	100.0

CANADIAN

IMPORTS

Commodity	Tons	Per Cent of Total
Newsprint	222,096	45
Iron Ore	174,125	37
Grains	30,526	6
Steel Mill Products	17,416	3
Salt	14,300	3
Iron and Steel Scrap	11,255	2
Total Imports	477,669	100

EXPORTS

Commodity	Tons	Per Cent of Total
Coal	890,778	79
Soybeans	116,682	10
Sulphur	54,358	5
Corn	48,358	4
Pig Iron	7,557	1
Total Exports	1,122,160	100

[a]Excluding the Indiana Harbors. Source: Corps of Engineers, U.S. Army, *Water-borne Commerce of the United States, 1955.*

Shipments show some similarity to receipts except no coal is shipped and steel mill products from the Calumet Area are shipped down the waterway, Table 17.

HARBORS IN INDIANA

Gary, Indiana and Buffington Harbors differ from Illinois harbors in their lack of connecting channels to the Inland Waterway System and in the almost total dominance of lakewise traffic. Some limited movement of barges between these harbors and the mouth of the Calumet River is made over the open waters of Lake Michigan only when weather conditions are ideal. Harbors in Indiana have no significant overseas traffic.

Indiana Harbor ranks first in tonnage among the three and is second only to Calumet River and Harbor of the Port of Chicago. Of its total 20,674,689 tons in 1955, over 19 million tons were lakewise traffic, 13 million in receipts and 6.3 million in shipments, Table 16. The leading commodities received are similar to lakewise receipts at the Illinois harbors: iron ore, crushed limestone, coal, some petroleum products and chemicals. Shipments from Indiana Harbor are dominated by petroleum products produced by the large concentration of refineries located there.

Both Gary and Buffington harbors are privately owned facilities of the industries they serve. In 1955 the Buffington cement plant received over a million tons of crushed limestone and shipped 168,000 tons of building cement via the Great Lakes.

Gary Harbor is owned by a large steel mill and its traffic shows clearly the relationship between lake shipping and the steel industry. Iron ore and concentrates constitute 10 million tons or nearly 80 per cent of all receipts and limestone ranks second with over 2 million tons.

All three of the Indiana harbors have a similar function to that of the Calumet Harbor and River—they serve directly basic processing plants on waterfront sites but, unlike the Calumet River terminals, they perform no transfer function.

CHICAGO HARBOR

Although the Chicago Harbor and the Chicago River and its two branches are not located within the Calumet Area, their waterborne traffic, especially the overseas traffic, has a relationship to present and future Lake Calumet and Calumet River traffic.

In 1955 the Chicago Harbor received about the same overseas

Table 15. Inland Waterway Traffic Leading Commodities, Port of Chicago, 1955[a]

RECEIPTS			SHIPMENTS		
Commodity	Tons	% of Total Receipts	Commodity	Tons	% of Total Shipment
Coal	4,362,605	40.5	Petroleum Products	747,176	41.5
Petroleum Products	2,558,907	23.3	Steel Mill Products	466,988	26.0
Sand and Gravel	1,584,759	14.6	Corn and Grains	165,519	9.0
Corn and Grains	634,379	5.9	Pig Iron	142,236	8.0
Sulphur	485,579	4.5	Industrial Chemicals	101,854	5.6
Industrial Chemicals	239,248	2.2	Phosphate Fertilizer	41,671	2.3
Soybeans	178,023	1.6	Soybeans	31,158	1.7
Sugar	161,755	1.5	Sand and Gravel	18,602	1.0
Molasses	78,086	.7	Ferrous Castings and Forgings	10,024	.6
Total Receipts	10,775,361	100	Total Shipments	1,795,654	100

[a]Excluding the Indiana Harbors. Source: U.S. Army Corps of Engineers, *Water-borne Commerce of the United States, 1955.*

Table 16. Water-borne Commerce of the Port of Chicago and Harbors in Lake County, Indiana, 1955[a]

	CARGO IN THOUSANDS OF SHORT TONS OF 2,000 POUNDS												
	Port of Chicago, Illinois								Harbors in Lake County, Ind.				Total
	Chicago Harbor	Chicago River, Main and North Branch	Chicago River South Branch	Chicago Sanitary and Ship Canal	Calumet-Sag Channel	Lake Calumet	Calumet River and Harbor	Total	Indiana Harbor	Buffington Harbor	Gary Harbor	Total	Port of Chicago, Illinois and Indiana
Overseas													
Receipts	22	3	0	0	0	25	45	95	4	[b]	[b]	[b]	[b]
Shipments	15	0	0	0	0	42	61	119	0	[b]	[b]	[b]	[b]
Canadian													
Receipts	170	14	53	....	0	8	233	478	651	[b]	[b]	[b]	[b]
Shipments	3	0	3	39	0	1	1,077	1,122	82	[b]	[b]	[b]	[b]
Great Lakes (Domestic)													
Receipts	5	114	32	364	7	25	15,719	16,267	13,037	[b]	[b]	[b]	[b]
Shipments	78	0	0	432	303	14	4,281	5,108	6,304	[b]	[b]	[b]	[b]
Inland Waterways													
Receipts	128	575	1,913	5,869	773	38	1,479	10,775	178	[b]	[b]	[b]	[b]
Shipments	7	6	83	934	81	7	678	1,796	162	[b]	[b]	[b]	[b]
Intraport													
Receipts	83	766	175	58	345	0	441	1,867	0	[b]	[b]	[b]	[b]
Shipments	1	1	5	1,803	56	0	0	1,867	0	[b]	[b]	[b]	[b]
Local (Receipts and Shipments within same harbor)	371	71	47	778	0	0	44	1,311	253	[b]	[b]	[b]	[b]
Total Shipments and Receipts[c]	883	1,533	2,340	10,278	1,565	158	24,056	38,969	20,675	1,291	10,555	32,521	71,490
Cargoes in Transit	1,303	1,317	2,558	6,218	3,035	0	730	413	0	0	0	0	413
Total, All Traffic	2,187	2,870	4,898	16,486	4,600	159	24,786	39,382	20,675	1,291	10,555	32,521	71,903

[a]Source: U.S. Army Corps of Engineers, *Water-borne Commerce of the United States, 1955.* [b]Data not available. [c]Total also includes coastwise movement total of 33,000 tons of which the Chicago River Main and North Branches handled 3,000 tons and the South Branch handled 30,000 tons.

Table 16a. Percentage Distribution of Water-borne Commerce of the Port of Chicago, by Harbor or Waterway, 1955[a]

	HARBOR OR WATERWAY							
Movement	Total	Chicago Harbor	Chicago River, Main and No. Branch	Chicago River, South Branch	Chicago Sanitary and Ship Canal	Calumet-Sag Channel	Lake Calumet	Calumet River and Harbor
Overseas								
Receipts	100	24	3	0	0	0	26	47
Shipments	100	13	0	0	0	0	35	52
Canadian								
Receipts	100	36	3	11	0	0	1	49
Shipments	100	1	0	1	3	0	6	95
Great Lakes (Domestic)								
Receipts	100	[b]	1	[b]	2	[b]	[b]	97
Shipments	100	3	0	0	8	6	[b]	84
Inland Waterway								
Receipts	100	1	5	17.7	55	7	0.3	14
Shipments	100	0.2	0.4	4	55	4	0.4	36
Intraport								
Receipts	100	2	3	5	26	3	[b]	61
Shipments	100	[b]	[b]	[b]	97	3	0	0
Local (Receipts and Shipments within same harbor)	100	27	5	4	60	0	0	4

[a]U.S. Army Corps of Engineers, *Water-borne Commerce of the United States, 1955.* [b]Less than one-tenth of one per cent.

Table 16b. Percentage Distribution of Water-borne Commerce by Movement, Port of Chicago, 1955[a]

Movement	Cargo Tonnage Percentage Distribution Receipts	Shipments
Overseas	0.3	1.8
Canadian	1.6	11.2
Great Lakes (Domestic)	55.3	50.7
Inland Waterway	36.4	17.8
Intraport	6.4	18.5
Total	100	100

[a]Source: U.S. Corps of Engineers, *Water-borne Commerce of the United States, 1955.*

tonnage as did the existing Lake Calumet Terminal, slightly less than 25,000 tons, and about half the tonnage of the Calumet River overseas tonnage, Table 17. Leading commodities were similar for Chicago Harbor and Calumet River terminals—liquors and wines, building cement and sugar. Overseas shipments were three to four times greater for the Calumet terminals than Chicago Harbor, but commodities again were similar—animal products and finished steel mill products.

In 1955 the leading commodity by tonnage for Chicago Harbor is Canadian newsprint, 170,000 tons (Table 17).

SUMMARY OF TRAFFIC: 1955

From analysis of Tables 12-17 the following findings are apparent:

(1) Over three-fourths of the overseas general cargo commodities were received or shipped by the Lake Calumet and Calumet River terminals with Chicago Harbor handling most of the remaining one-fourth. Leading commodities imported and exported were very similar for Chicago Harbor and Calumet River terminals.

(2) Bulk commodity traffic is either (a) raw materials to industry for processing or as a power source, or (b) for transshipment.

(3) The volume of shipment of manufactured products is small in comparison to bulk commodities but represents a movement of higher value material.

Table 17. Water-borne Commerce of the Port of Chicago b

Movement	Receipts or Shipments	Rank	Chicago Harbor	HARBOR Chicago River North and Main Branch
Overseas	Receipts	1.	Liquors and Wines..... 8.4	Building Cement..... 2
		2.	Sugar..... 2.5	
		3.	Building Cement..... 2.2	
		4.	Fish..... 1.7	
		5.	Stone..... 1.1	
		Total,	All Commodities.....22.3	2
	Shipments	1.	Animal Oils and Fats..... 3.4	
		2.	Animal Feeds..... 2.1	
		3.	Meat and Products..... 2.0	
		4.	Rolled Finished Stl. Mill Prod.... 1.4	
		5.	Coke..... .7	
		Total,	All Commodities.....15.4	
Great Lakes (Canadian)	Receipts	1.	Newsprint Paper.....169.4	Salt.....14
		2.		
		3.		
		4.		
		5.		
		Total,	All Commodities.....169.7	14
	Shipments	1.	Pig Iron..... 2.8	
		2.		
		3.		
		4.		
		5.		
		Total,	All Commodities..... 2.8	
Great Lakes (Domestic)	Receipts	1.	Coal Tar Products..... 5.0	Building Cement..... 87
		2.		Salt..... 26
		3.		
		4.		
		5.		
		Total,	All Commodities..... 5.0	114
	Shipments	1.	Pig Iron.....39.5	
		2.	Sulphur.....19.1	
		3.	Non-Metallic Minerals.....12.4	
		4.	Ferroalloys, Ores, Metals..... 5.7	
		5.	Rolled Finished Stl. Mill Prod.... 1.5	
		Total,	All Commodities.....78	
Inland Waterway (Barge)	Receipts	1.	Sugar..... 67.5	Bituminous Coal.....30
		2.	Molasses, Sugar Prod..... 21.0	Sand and Gravel.....22
		3.	Pig Iron..... 15.6	Salt..... 4
		4.	Sulphur..... 6.8	
		5.	Non-Metallic Minerals..... 4.5	
		Total,	All Commodities.....128.1	575
	Shipments	1.	Rolled Finished Steel..... 2.7	Paper Base Stocks..... 3
		2.	Coal Tar Products..... 2.2	Paper and Manufactures..... 2
		3.	Wood Manufactures..... 1.1	
		4.	Paper and Manufactures..... .5	
		5.		
		Total,	All Commodities..... 6.6	6
Intraport	Receipts	1.	Limestone Crushed.....79.4	Sand and Gravel.....691
		2.	Sand and Gravel..... 3.2	Petroleum Products..... 60
		3.		Coal..... 1
		4.		Industrial Chemicals..... 1
		5.		
		Total,	All Commodities..... 82.6	765
	Shipments	1.	Coal Tar Products..... 1.3	Petroleum Products.....
		2.		
		3.		
		4.		
		5.		
		Total,	All Commodities..... 1.3	

arbor, Waterway and the Five Ranking Commodities by Tonnage, 1955[a] (Data are shown in thousands of tons)

HARBOR

Chicago River South Branch

wsprint Paper.....52.6

52.7

rn..... 2.6

2.6

troleum Products.....31.5

31.5

uminous Coal and Lignite..1,441.7
n-Metallic Minerals..... 228.6
per Mfrs..... 53.1
gar..... 43.3
c Ore, Concentrates, Scrap 35.2
1,912.9
lled Finished Steel.....47.9
heat, Oats, Corn.....17.4
n and Steel, Semi-Finished... 8.9
lustrial Chemicals..... 2.8
n-Metallic Minerals..... 1.4
83.2
nd and Gravel.....104.1
troleum..... 65.8
al..... 5.0

174.9

troleum Products..... 5.2

5.2

Chicago Sanitary and Ship Canal

Sulphur.....39.0

39.0
Petroleum Products.....339.1
Industrial Chemicals..... 25.1

364.2
Petroleum Products.....266.3
Sulphur.....156.8
Limestone Crushed..... 2.8
Industrial Chemicals..... 2.5
Rolled Finished Stl. Mill Prod... 1.7
432.1
Bituminous Coal and Lignite..2,348.0
Petroleum Prod.....1,914.7
Sand, Gravel..... 773.0
Industrial Chemicals..... 231.2
Sulphur..... 226.7
5,869.0
Petroleum Products.....685.3
Industrial Chemicals..... 96.3
Corn..... 47.9
Fertilizer and Mat..... 41.6
Rolled Finished Steel..... 17.9
933.9
Petroleum Products.....56.4
Coal Tar Products..... 1.3

57.7
Sand and Gravel.....1,368.6
Petroleum Products..... 191.9
Limestone Crushed..... 79.4
Soybeans..... 78.9
Corn, Oats, Wheat..... 74.9
1,803.4

Calumet Sag Channel

Petroleum Products..... 7.2

7.2
Petroleum Products.....303.2

303.2
Petroleum Products.....527.0
Sand and Gravel.....197.9
Bituminous Coal..... 38.7
Phosphate Fert. Mat..... 3.7
Non-Metallic Minerals..... 2.7
773.4
Petroleum Products.....81.0

81.0
Sand and Gravel.....314.5
Petroleum Products..... 30.3

344.8
Petroleum Products.....55.5

55.5

Lake Calumet

Glass and Glass Prod..... 3.1
Vegetable Fibers..... 2.5
Tools and Basic Hardware..... 1.9
Plywood, Veneers..... 1.8
Coal Tar Products..... 1.6
24.8
Animal Oils and Fats..... 7.8
Misc. Chemical Prod..... 7.2
Animal Prod. Inedible..... 7.2
Hides and Skins..... 5.3
Rolled Finished Stl. Mill Prod.... 2.6
41.6
Iron and Steel Semi-Fin. Prod.... 7.0

7.9
Pig Iron..... .8

.8
Rolled Finished Stl. Mill Prod....18.0
Pig Iron.....17.0

25.0
Pig Iron.....11.0
Rolled Finished Stl. Mill Prod.... 1.8

13.7
Pig Iron.....28.4
Non-Metallic Minerals..... 4.0
Ferroalloys, Ores..... 2.1
Rolled Finished Steel..... 1.5
Coal..... .8
37.8
Rolled Finished Steel..... 2.5
Pig Iron..... 2.2
Ferrous Castings and Forgings.. 1.0
Coal Tar Products..... .8

6.7

Calumet Harbor and River

Building Cement.....14.8
Liquors and Wines..... 4.7
Fruits Canned..... 3.6
Sugar..... 2.8
Tools and Basic Hardware..... 2.4
45.3
Rolled Finished Stl. Mill Prod....14.6
Animal Oils and Fats..... 9.6
Animal Feeds..... 6.6
Hides and Skins..... 6.6
Vegetable Prod. Inedible..... 2.6
61.4
Iron Ore and Concentrates.....174.1
Barley and Rye..... 20.3
Iron and Steel Scrap..... 11.2
Wheat..... 10.1
Iron and Steel Semi-Fin. Prod... 5.2
232.9
Bituminous Coal Lignite..... 890.7
Soybeans..... 116.6
Corn..... 45.6
Sulphur..... 15.2
Pig Iron..... 3.9
1,076.7
Iron Ore and Concentrates...10,790.8
Limestone Crushed..... 2,994.4
Bituminous Coal and Lignite. 1,722.1
Petroleum Products..... 83.0
Pig Iron..... 58.2
15,718.6
Bituminous Coal and Lignite..3,965.4
Wheat..... 86.0
Coke..... 59.4
Non-Metallic Minerals..... 25.4
Iron and Steel Semi-Fin. Prod. 24.5
4,280.5
Corn, Wheat, Oats..... 568.6
Sulphur..... 249.6
Bituminous Coal..... 227.1
Sand and Gravel..... 99.3
Ferroalloys, Ores..... 24.9
1,478.8
Rolled Finished Steel.....346.9
Pig Iron.....138.2
Corn, Barley, Wheat, Oats..... 98.7
Iron and Steel Semi-Finished... 35.0
Soybeans..... 20.1
677.7
Sand and Gravel.....255.1
Soybeans..... 78.9
Corn, Oats, Wheat..... 74.9

440.5

[a]Excluding the Indiana Harbors.

Source: U.S. Army Corps of Engineers, *Waterborne Commerce of the United States, 1955.*

LAKE CALUMET HARBOR PLAN[4]

A previous section of this chapter reported that the $24,000,000 first stage of the Lake Calumet Harbor will be completed in April 1957, before completion of the St. Lawrence Seaway project scheduled for the 1959 shipping season. The plan for development of the entire Lake Calumet by the Chicago Regional Port District shows several stages of development, and is published herein for the first time, Figure 15. If needed for port and industrial activities the total 2,300 acres within Lake Calumet will be ultimately developed with about 1,800 acres of usable land serviced by a deep-water anchorage basin and slips having an area of about 500 acres.

The first stage of development of the harbor includes a 70-acre ship and barge terminal, flanked by approximately 5,700 feet of modern steel docks and about 125 acres of man-made land. Initial depth will be 21 feet. Facilities include three covered transit sheds, one warehouse and 3,500 feet of wharfage at the transit sheds, designed to provide facilities for the economic transfer of general and bulk cargo between barge, ship, rail and truck transport. Two grain elevators of 13,000,000 bushel capacity are being constructed. Each of the individual operating units, except the warehouse, has been leased to private business concerns. The Chicago Regional Port District will manage the entire harbor area.

In addition to the initial development of Lake Calumet Harbor the following developments are proposed in the near future:

(a) A new program for dredging a larger area at the south end of Lake Calumet.

(b) A 100-acre tank farm area at the southeastern part of the lake to be separated from the other parts of the harbor on three sides by water.

(c) A new slip 1,000 feet north of the grain elevators which will be 3,000 feet long by 400 feet wide.

(d) Three additional transit sheds totaling 300,000 square feet.

(e) A 50-acre truck terminal.

(f) The location of several heavy industries on filled land in Lake Calumet.

Lake Calumet Harbor will be an integrated port handling barge, lake and overseas traffic and will be served by rail and highway transportation.

[4]For a monthly progress report on Lake Calumet Harbor see DeLeuw Cather & Co. Lake Calumet Harbor Progress Reports to the Chicago Regional Port District.

CALUMET-SAG CHANNEL PROJECT

On November 2, 1955 work began on the federal project to widen the 16-mile Calumet-Sag Channel from the present 60 to 225 feet. The initial appropriation of $4 million is to cover the first 3.2 miles and the widening of the full 16.2 miles is estimated to cost $102 million. The Army Engineers have set up a six-year construction schedule to complete the entire project in 1961 or at the earliest, 1960. The major remaining obstacle to the completion of this project is the rebuilding or altering of twelve bridges and removing eight other bridges which cross the channel.

WATERWAYS, HARBORS AND THE CALUMET AREA'S FUTURE

In the past the Calumet Area's urban development has been very closely tied to the water transportation and dockside industrial locations available. Increasingly in the last decade general Metropolitan Area growth has extended into the Calumet Area. In the future both of these forces will be operating at an accelerated rate.

Lake Calumet Harbor will strengthen the Calumet Area's position as an overseas port, increase greatly the storage and transfer operations in the Calumet Area and provide up to 1,800 acres of man-made land for port and industrial activities.

Despite inadequate port facilities the Port of Chicago handled 214,000 tons or about 40 per cent of the 1955 overseas general cargo of the Great Lakes. Over three-fourths of that cargo moved

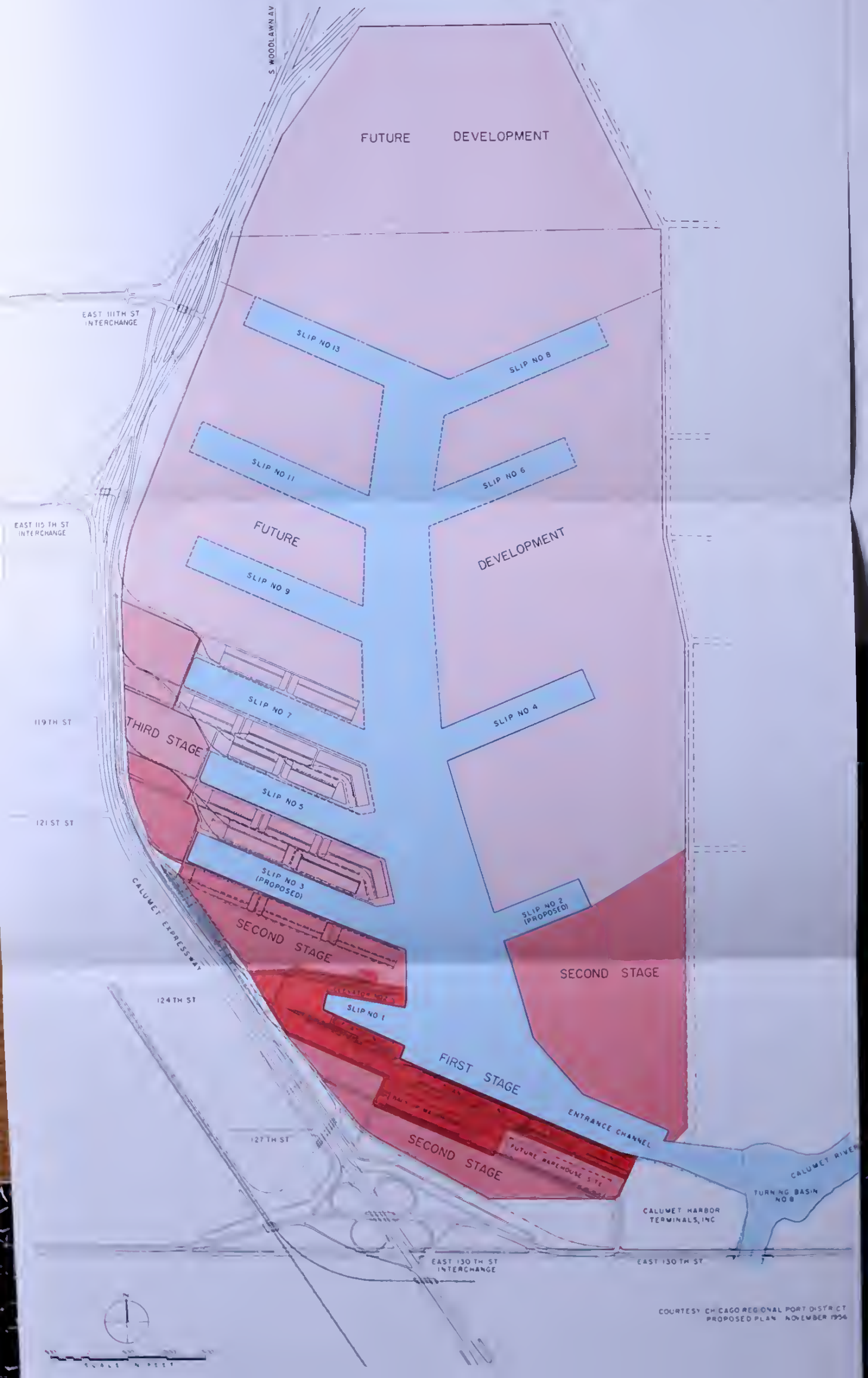
Figure 15

PROPOSED
LAKE CALUMET HARBOR PLAN

[5]Rufus Putnam, *Harbor Plan of Chicago*, (Chicago: Commercial Club of Chicago, 1927)

[7]Chicago Regional Port District. *op. cit.*, pp. 75-76.
[8]Chicago Regional Port District, *Op. Cit.*, pp. 73-75.

PROPOSED
LAKE CALUMET HARBOR PLAN



COURTESY CHICAGO REGIONAL PORT DISTRICT
PROPOSED PLAN NOVEMBER 1936

over the docks of existing terminals along the Calumet River and in Lake Calumet. An estimation of the volume of future overseas traffic for the Port of Chicago and the Calumet awaits determination of many variables including a determination of the maximum volume of general cargo that can pass through the St. Lawrence Seaway with its physical limitations and in competition with heavy bulk movement of iron ore. Other variables yet undetermined are the Seaway toll rates, future costs by alternative forms of transportation, the availability of overseas cargo vessels, and future tariff policies. Trends indicate that the St. Lawrence overseas general cargo traffic will increase substantially and that Chicago will be a leading port on the Great Lakes. A continual examination of overseas traffic and all the attendant variables are required to assure an adaquate estimation of Chicago's ability to handle that traffic.

The widening of the Calumet-Sag Channel will permit a much higher volume of barge traffic to and from the Calumet Area. Another significant development will be the creation of industrial sites with barge docking possibilities along the banks of the Channel.

Transfer and storage operations in the Calumet Area will expand substantially with the harbor and waterway development and the new expressway-toll highway system. New technology in transfer and storage operations requires large tracts of land with access to all forms of transportation. These conditions are present in the Calumet Area.

LAKE FRONT HARBOR PROPOSALS FOR CALUMET AREA

Thirty years ago the Commercial Club of Chicago published the Harbor Plan of Chicago[5] which suggested plans for waterway improvements including a "Calumet Interstate Harbor" astride the Illinois-Indiana boundary at the Lake Michigan shore. In 1955 at a Conference on the Port of Chicago, the City Engineer of Hammond, Indiana presented a "Proposed Calumet Region Harbor" which would be created by extending the breakwater from Calumet Harbor at the mouth of the Calumet River to Gary Harbor.[6] This entire area would then be suitable for barges, lake and overseas vessels. About 2,000 acres of new land would be added to Hammond and Whiting by fill along the Lake shore.

A third proposal for a lake front harbor in the Calumet Area is the Burns Harbor proposed at Burns Ditch, eight miles east of Gary.[7] Plans for this harbor would include industrial and general cargo facilities. The State of Indiana has recommended this harbor, and the U.S. Army Corps of Engineers has held preliminary hearings upon the proposal. Burns Harbor would serve lake and overseas vessels but would lack suitable access for barges unless the breakwater suggested by the Proposed Calumet Region Harbor were extended a few more miles from Gary to Burns Harbor, and this possibility has been suggested by Indiana officials.

Another suggested layout for a harbor on Lake Michigan utilizes the 1,100-foot strip of shoreline in the city of Chicago extending from Calumet Park to the state line.[8] This harbor would extend eastward of the state line and would involve both Illinois and Indiana.

PORT AND WATERWAY DEVELOPMENT NEEDS

Although Chicago and the Calumet Area will have certain harbor and waterway improvements completed in the near future, many problems remain to be solved if the Chicago area is to maintain a strong port and waterway position.

THE FOLLOWING ASSETS ARE RECOGNIZED:

(1) That the Calumet Area is the most appropriate area for major harbor facilities for commerce and industry in metropolitan Chicago.

[5]Rufus Putnam, *Harbor Plan of Chicago*, (Chicago: Commercial Club of Chicago, 1927)

[6]Robert L. Lippman in *Conference on the Port of Chicago* (Chicago: Foreign Trade Training Center: 1957). pp. 11-12.

[7]Chicago Regional Port District. *op. cit.*, pp. 75-76.

[8]Chicago Regional Port District, *Op. Cit.*, pp. 73-75.

(2) That the first stage of port development for the Chicago area will find its most convenient site in Lake Calumet.

(3) That one of the strongest assets of Lake Calumet Harbor is the potential of providing needed industrial land for manufacturing, storage and transfer operations with overseas, lake, and barge access.

(4) That the Lake Calumet Harbor area and immediate vicinity is the prime future industrial development area in the Calumet Area because of a large supply of vacant industrial land with deep water and barge transportation.

(5) That Lake Calumet Harbor will aid in firmly establishing Chicago as the terminus of the St. Lawrence Route.

(6) That Lake Calumet Harbor will provide experience and data essential in gauging future harbor volume and administration needs.

(7) That an improved Navy Pier and other Chicago Harbor facilities be revived as a useful supplement to Lake Calumet as general cargo harbor.

THE FOLLOWING PROBLEMS EXIST:

(1) No coordinated harbor planning or development for the Chicago Metropolitan Area.

(2) Limitation of Lake Calumet commercial harbor development posed by Calumet River water traffic congestion, possible marine accident, and water-land traffic conflict produced by increased bridge openings.

(3) Competitive position of Lake Calumet as a commercial harbor development may be weakened if a more accessible Lake Front harbor is developed on Lake Michigan.

(4) Provision of adequate barge routes to harbors in Lake County, Indiana.

THE FOLLOWING NEEDS ARE EVIDENT:

(1) Determination of the magnitude of future water-borne traffic for metropolitan Chicago by an appropriate analysis of metropolitan Chicago's potential economic growth and of variables affecting water transportation.

(2) Effectuation of coordinated planning of port and waterway development in metropolitan Chicago which enlists the cooperation of the States of Illinois and Indiana, the Chicago Regional Port District, the city of Chicago, and suburban municipalities.

(3) Application for federal interest-free loan to plan water front development similar to recent $147,000 Housing and Home Finance Agency loan granted Erie, Pennsylvania.

(4) Evaluation of all Lake Front harbor proposals and preparation of a plan which will include the Illinois and Indiana area . . . such an evaluation to include (a) an examination, periodically, of upper limits of the capacity of Lake Calumet for commercial port development, (b) a determination of Calumet River capacity to absorb future traffic and (c) a solution to problem of barge movement from the Inland Waterway to harbors in Indiana.

(5) Reservation, by the city of Chicago, of the 1,100-foot Lake Michigan shore line property immediately west of the Illinois-Indiana boundary for a possible future Lake Front harbor.

(6) Investigation of the future magnitude of Calumet River bridge openings and determination if undue railway and highway traffic delays call for early action for more high level bridges or alternative solutions.

(7) Determination of the feasibility of full operation of Navy Pier and the Chicago Harbor area as a supplement to a Calumet Area harbor.

(8) Evaluation of public policy, including zoning, on utilization of land with access to navigable waterways with priority system for water transportation oriented industries.

(9) Integration of port and waterway planning with land use planning for the Metropolitan Area.

III TRANSPORTATION FACILITIES

This chapter considers the transportation facilities of the Calumet Area and includes discussion of (a) these facilities within the Metropolitan Area framework including recent expressway and toll highway developments, (b) the relationship of the transportation facilities and land use, (c) a study of existing and probable future vehicular traffic in the vicinity of Lake Calumet, (d) mass transit, (e) air transportation and (f) transportation needs in the Calumet Area.

CALUMET AREA WITHIN THE METROPOLITAN AREA TRANSPORTATION PATTERN

The Calumet Area has been and will continue to be the land transportation corridor curving around the south end of Lake Michigan linking the most highly developed parts of the Chicago Metropolitan Area with the major population and industrial centers of the eastern United States. The numerous major railroad lines, highways and the recently constructed toll highway system from Chicago to New York all emphasize the Calumet Area's strategic land transportation position.

The Calumet Area has a number of distinctive differences from the other parts of the city of Chicago and the Chicago Metropolitan Area. From a land transportation viewpoint the Calumet Area has several significant characteristics including (1) physical interruptions such as Lake Calumet, Wolf Lake, the Calumet River and its tributaries, the Calumet-Sag Channel, and poorly drained land; (2) large industrial sites such as steel mills, petroleum refineries, petroleum storage areas, and large vacant industrial tracts, unusually dense concentration of major railroad lines and yards; and (3) urban development less contiguous than many other parts of the Metropolitan Area.

The previously listed characteristics of the Calumet Area combined with the Area's partial development have resulted in sharp contrasts in accessibility by land transport.

EXPRESSWAYS

Recent expressway developments have provided new accessibility to parts of the Calumet Area. Expressways and toll highways completed or programed in the Greater Calumet Area are shown on the land use map, Figure 1. The Metropolitan Area expressways and toll highways are mapped in Figure 16. The estimated dates of completion of the express roadways are listed in the following table.

Figure 16

Route	*Estimated Date of Completion*[1]
Calumet Expressway	1956 (completed)
Indiana Toll Highway	1956 (completed)
Congress Street Expressway	1956-1959 (80 per cent complete in 1956)
Kingery (Tri-State) Expressway	1956-1958 (completed except eastern connection with Indiana Toll Highway)
Calumet Skyway Toll Bridge	1957
Illinois Tri-State Toll Highways	1959
Northwest Expressway	1959
South Expressway	1960
Southwest Expressway	1960-1964

STREETS

The interconnecting network of streets characteristic of most of the Metropolitan Area is lacking in the Calumet Area. The interruptions to land transportation listed previously in this chapter and the many governmental jurisdictions in the Calumet Area have produced difficult problems of street construction. Following sections of this chapter discuss the street needs in the Calumet Area with special reference to area near Lake Calumet in the city of Chicago.

RAILROADS

Major railroad routes in the Greater Calumet Area are shown in Figure 1 and the significance of rail transport to the Calumet Area is noted in Chapter I and in the following section of this chapter. Similar to most of the Metropolitan Area, the Calumet Area is traversed by major rail lines and yards. Main line eastern railroad routes are located in the eastern part of the Calumet Area, main line southwestern and western railroads are located in the western part of the Calumet Area, and main line southern railroad routes are located in the central part of the Calumet Area. The Chicago Switching District provides exchange of railroad freight between the various railroads in most of the developed parts of the Calumet Area, but some limitations of the District boundaries are discussed in a following section of this chapter.

[1]Sources: City of Chicago Department of Public Works, Cook County Department of Highways, Illinois Toll Highway Commission, Indiana Toll Road Commission.

PUBLIC TRANSIT

The Calumet Area is served by a combination of three systems of public transit. The Chicago Transit Authority (CTA) provides service within the city of Chicago at the southeastern end of the CTA network. Suburban bus lines serve suburban Calumet and have destinations within the city of Chicago. Major commuter railroad lines serve both the City and suburbs. One electrified line serves the Indiana area from South Bend and Gary to Chicago's Central Business District. Another electrified line extends from the village of Richton Park near Cook County's southern boundary to Chicago's Central Business District with an east branch extending to the industrial area near the Calumet river and 95th Street in Chicago and a west branch extending to the village of Blue Island near the southwest boundary of Chicago. Diesel powered railroad service is provided from Joliet to Chicago's Central Business District. Other non-electrified railroad service is available on less frequently scheduled runs than the previously mentioned services. Unlike some parts of the northern and the western suburban area of Chicago, suburban Calumet has no CTA rapid transit service. The nearest such service to the Calumet Area is 63rd Street in Chicago, but pending studies of an extension of this service are noted in a following section of this chapter.

AIRPORTS

The generalized land use map, Figure 1, shows location of airports in the Greater Calumet Area. Chicago's Midway Airport is about ten miles northwest of Lake Calumet, and the Gary Municipal Airport is about eight miles southeast of Lake Calumet. The new O'Hare Field Chicago International Airport is about fifteen miles northwest of Midway Airport. A following section of this chapter outlines the area's air transportation needs.

WATERWAYS

Previous chapters have documented the unique waterway characteristics of the Calumet Area in comparison with the remainder of the Metropolitan Area. These waterways have allowed the Calumet Area its heavy industrial development and will provide improved future facilities for Calumet industries. These same waterways have given the Calumet Area problems of land transportation development.

TRANSPORTATION FACILITIES AND RELATION TO LAND DEVELOPMENT[2]

INDUSTRIAL DEVELOPMENT

Although the existing railroad access, and the existing and prospective highway access through the Calumet Area are excellent insofar as connections to other cities and to other sections of the Chicago Metropolitan Area are concerned, the Area suffers from inadequate local access to many of the potential industrial developments.

One of the principal sources of inadequacy is the conflict between street and highway traffic on the one hand and railroad traffic on the other due to the fact that a high proportion of the railroad trackage is at grade. This necessitates scores of grade crossings. Since the preponderance of railroad lines are primarily for local switching to and from the industrial establishments within the Calumet Area, long delays to highway traffic are quite common. With the completion of the expressways now under construction, much of the long-distance highway traffic will be freed from such delays, but many arterial streets, primarily carrying commuter automobile and bus traffic within the district, will continue to be subjected to such delays and reduction of capacity due to grade crossings, as well as to hazardous conditions, unless a comprehensive program of grade separation is begun in the near future. Fortunately, some funds will be potentially available for that purpose in connection with the new federal program.

[2]This section was prepared by Harold M. Mayer, Associate Professor of Geography, University of Chicago and consultant to the Chicago Plan Commission.

The Calumet Area contains one of the most dense concentrations of railroads to be found anywhere. The convergence of lines from the east and southeast around the southern end of Lake Michigan has produced a radial pattern of main lines, carrying heavy volumes of through freight in the Indiana portion of the district. In the Illinois portion, the pattern is also basically radial, with lines traversing the western portion of the Calumet area from south, and from southwest. In addition, most of the major belt lines, circumferential to central Chicago, intersect the radial trunk lines in the Calumet Area. These lines—the Indiana Harbor Belt, Baltimore & Ohio Chicago Terminal, Belt Railway of Chicago, and the Chicago Outer Belt Line (Elgin, Joliet & Eastern)—provide interchange service to and from all radial lines serving metropolitan Chicago, so that an industry on any of the belt lines is, in effect, on all of the Chicago railroads. On most intercity movements, switching charges are absorbed by the line-haul carriers. Therefore, industries on belt lines have the advantages of the same rates as if on direct trunk lines, and in addition, have neutral switching facilities, not being dependent upon any one trunk line for service.

On the other hand, the eastern and southern boundaries of the Chicago Switching District pass through the Calumet Area, so that the outer portions of the Area do not receive full advantage of the Chicago rates, and additional switching costs, as well as delays, are incurred. Within the Switching District, uniformity of rates is adhered to; outside the District switching is subject to additional costs. This is largely because additional crews are necessary for movements across the Switching District boundary. The boundary of the Switching District was established many years ago, when virtually all of the industries of metropolitan Chicago were much closer to the heart of the City, so that the objective of a unified metropolitan switching district was achieved. Since then, industrial development outside of the District, especially in the Calumet Area, has been tremendous, but the District boundary has not been appreciably extended. The original intent in the establishment of the Chicago Switching District has been in part impaired by the fact that a fragmentation of the Metropolitan Area has resulted from expansion of industrial activity beyond the district boundary. Gary, for example,

is outside of the Switching District. The result has been a rather artificial force tending to hold industrial development closer to the central part of the Metropolitan Area than perhaps would be the case if the industries were freed of the necessity to share in the advantages of location within the present rather confined switching district. A review of the boundaries of the Chicago Switching District, therefore, with a view toward their revision and extension, is prerequisite to a comprehensive plan for the industrial development of the entire Calumet Area. With an extension of the Switching District boundary, industries located to the south and east of the present boundary would be freed from their present handicap of higher freight rates on certain line-haul movements, and would share in the advantages of uniform switching rates and practices within the district. With such revision, therefore, the other forces tending toward expansion and deconcentration of industry in the Calumet Area would be allowed freer play.

Because of the density of the existing rail network in the Calumet Area, no major extensions may be expected, but relatively short spurs into new industrial developments must be planned integrally with the site plans for such developments. In this connection, the location of access roads is important. Such roads should not be closely parallel to rail lines, since, in order to reach industrial areas on the opposite side of the road from the rail line, the railroad spurs must cross the road, necessitating either very expensive grade separations, or, more commonly, road crossings at grade with consequent delay to road traffic. Ideally, parallel roads and railroads should be separated by 600 to 1,000 feet, permitting the development of industrial sites between, with no conflict of road and rail traffic.

The present common practice of placing new expressways closely parallel to railroad rights-of-way, while perhaps facilitating land acquisition, has the detrimental effect of cutting off potential industrial land across the expressway from direct rail access.

Rail access to the port areas, especially in Lake Calumet, is not ideal, in spite of the fact that the port is located near a large number of rail routes. Grade separations across the nearby highways, particularly Doty Avenue, are urgently needed. A rail line giving access to the eastern side of Lake Calumet should definitely be committed to serve the industries which will locate there.

Particularly important is the provision of neutral rail access to the port area of Lake Calumet. At present the west and south sides of Lake Calumet are served by the Chicago, Rock Island & Pacific Railroad, through its subsidiary, the Pullman Railroad, along whose lines are located the various facilities of the Chicago Regional Port District. The east side of the lake is not now served directly, although the New York, Chicago & St. Louis Railroad (Nickel Plate Road) main line is a few hundred yards to the east and no special problems would be involved in extending spurs into the port terminals and industries to be located along and near the east side of Lake Calumet. There are, however, advantages in neutral access to a port terminal facility, by means of a belt or switching line, in that service, including spotting of cars, would thus be available without preferential treatment for shipments received from or delivered to any particular line haul carrier. Several railroads, in addition to the Rock Island which now serves the area, have applied to the regulatory authorities for permission to provide access and switching services in the Lake Calumet port area, and an early decision is imperative if the full potentialities of the port development are to be realized.

Not only will the new and prospective toll roads and expressways facilitate the industrial development of areas which are now partially developed by giving better access to the remaining vacant areas adjacent to existing industries, but they will also open for prospective industrial development extensive areas beyond the present concentrated industrial districts in many parts of the Calumet Area. Among the major areas which may be expected to develop industrially within the near future are extensive presently agricultural or unused areas along the following new or prospective highways: (1) the Indiana Toll Road, between the east end of Gary and LaPorte, Indiana, where intermittent industrial development may be expected to take place, in part independent of railroad lines, extending, in effect from the eastern limits of the Calumet Area and the Chicago Metropolitan Area eastward for nearly fifty miles; (2) the Calumet Expressway, from 95th Street southward to the Cook County

boundary, where are available not only extensive industrial lands in the vicinity of Lake Calumet but also southward of the junction with the Kingery Expressway; and (3) at various points along the Tri-State Toll-Way southwest of the city of Chicago, and especially in and near the communities of Thornton, Markham, Blue Island, Alsip, and Chicago Ridge. Relatively little development of industry can be expected along the Kingery Expressway because of the rapid development of residential areas along that route in the past few years. Additional major highway routes may be expected, at undetermined routes, within the Calumet Area as a result of the large federal program which was authorized by the Highway Act of 1956, and in each case careful consideration should be given to the selection of routes which will provide convenient access to prospective industrial areas.

Since the development of modern limited-access expressways is relatively new everywhere, and since there is as yet no example of an integrated, inter-connected system in any metropolitan area, it is difficult for most people to realize the tremendous potential effects of such a system upon the pattern and extent of development of both industrial and residential areas. Already, in many places throughout the country, examples of de-concentrated industrial and commercial areas exist, and the accelerating spread of residential development into the peripheries of Metropolitan Areas is becoming a familiar phenomenon. New conceptions of freight transportation by highway are arising, and several important nation-wide trends will have important impacts upon the pattern of industrial development in the Calumet Area, as elsewhere. Many types of industries are no longer, as in the past, dependent upon railroads for the major part of the inbound and outbound freight movements. In 1955, for the first time, the railroads of the United States carried slightly under half of the total ton-miles of freight movement. This represents a substantial decline from the situation several decades ago, when they carried over three-fourths of the total freight movement.[3] In terms of general freight, such as manufactured goods, which represent high value in proportion to bulk and consequently take relatively high freight rates, the motor trucks have made even more substantial inroads into railroad traffic. With the accelerated rate of construction of modern high-speed expressways, the motor truck is in even a more favorable competitive position. This places even greater stress than before upon the provision of good local access streets and highways, for expressways, by their very nature, cannot provide access. The local street patterns must be considered in detail as essential parts of any new industrial development. Furthermore, the increasing proportion of movement by motor truck necessitates increases in the areas within industrial plant sites for maneuver and for off-street loading and unloading. Indeed, most modern zoning ordinances make provision of off-street trucking facilities mandatory. This increases the amount of land required, and consequently results in a lower density of development. Whereas the typical railroad box car has a capacity of fifty tons, the average over-the-road truck has a capacity of ten tons. This increases the flexibility of freight service and concomitantly necessitates adequate provision in the design of plants and industrial districts for freight access.

The railroads will undoubtedly continue to be the basic haulers of bulk raw materials and commodities and will retain a share of the general freight movements. Trucking on the other hand may be expected to continue to increase in relative importance. Among the considerations which must be included for motor trucking in planning for such a prospective increase in industrial activity as may be expected in the Calumet Area are the following: (1) union truck terminals, and truck terminal districts for the consolidation and sorting of general freight between over-the-road common carriers and the smaller trucks for local pickup and delivery, to avoid the excessive mileages now involved in trucking to and from the scattered existing truck terminals, particularly on freight interchanged among carriers; the latter represents over one-third of the total trucking by common-carrier in metropolitan Chicago; (2) "piggy-back" terminals for transfer of truck-trailers and containers between highway and railroad carriers, such terminals to be located preferably with convenient access to expressways and to major access streets at several

[3]Despite this decline in the proportion of total freight movement, the current rail traffic does not show a conspicuous decline because of the increasing amount of all kinds of freight movement.

localities within the Calumet Area; (3) convenient lay-over terminals, convenient to expressways and especially to circumferential routes, to be provided with restaurants, hotels for truckers, communications, and other facilities designed to reduce the amount of truck movement through the local area of freight not originating or terminating within the area.

The development of the new expressway systems, together with changes in the technology of both transportation and industrial production, may be expected to produce significant changes in the pattern of industrial location, as well as in general plant requirements, which must be considered in relation to the Calumet Area.

In the first place, there are potentially, and to some extent actually, two distinct trends in industrial site requirements with relation to transportation. On the one hand, many industries are freed from the requirement of trackside location in order to be reachable by sidings and spurs for switching of railroad cars, and are seeking locations with primary consideration being given to highway access, particularly with reference to local access streets leading to expressways. On the other hand, other industries, particularly those receiving or shipping bulk materials, require, more than ever, because of the increasing labor costs involved in transshipment, locations served directly by either waterways or railroads, or, preferably, both. In both instances, the requirements are for ever-more-extensive sites, but for the former the number and size of such sites is increased tremendously by the flexibility of highway transportation, whereas for the latter, since waterway extensions are expensive and limited in possibility while railroad extensions are, in most instances, virtually out of the question, sites have become scarce, and will in all probability become increasingly so.

While there are in the Calumet Area as much as 15,000 acres of land potentially available for industrial development, competition for sites, particularly for major heavy industries is very keen. The 1,800 acres being created in Lake Calumet, at the present rate of demand may be expected to be fully utilized within a few years, but the demand for waterfront sites will not then be satisfied, and further expansion of the industrial port area may be anticipated. The potential sites along the Calumet-Sag Channel, to the west of Lake Calumet and potentially later to the east, will have the advantage of barge access, but they will lack access by deep-draft lake and ocean vessels. The eastward extension of the Calumet-Sag Channel is, in any event, not in prospect for some time in the future, and its economic justification should be carefully re-examined in the light of the experience with the westward improvement, the emerging patterns of industrial location following the opening of the Seaway, and the possibility of providing alternative routes, such as the extension of the Calumet Breakwater eastward into the Indiana portion of the Lake Michigan shoreline.

The rapid extension of residential development in the Calumet Area has resulted in a sustained demand for residential land, and many new housing developments are taking place along railroad lines, to the exclusion of prospective industries which could well use the increasingly scarce trackside land. Modern industries, even of the so-called "heavy" or "basic" types, such as the primary metal producers and the chemical plants, require ever-increasing amounts of land to accommodate the lower employment densities as the proportion of capital plant to labor costs in production increase, and as additional space is required for employee parking and for truck handling facilities within the plants. With the anticipated expansion of the metropolitan population by over two millions in the next two decades, and with the increasingly favorable situation of Chicago as the node of waterway and highway access to the entire mid-continent area, the increase in the demand for industrial sites may be expected to outpace even the spectacular prospective increases in population. In spite of transportation improvements, it is not advantageous for industries to locate on the outer fringes of the Metropolitan Area in many instances, for linkages exist with established industries and service facilities in the existing concentrations, and increasing distance still adds to the cost of doing business. Therefore, a maximum demand may be anticipated for extensive sites for large-scale industries within and adjacent to existing industrial areas, whereas smaller industries of secondary and tertiary type, such as fabricators of small products, and manufacturers serving regional markets, may locate farther out

without as great a cost penalty. Labor recruitment, in both instances, is an increasingly serious problem, and in spite of the peripheral movement of residential development and, consequently, of the metropolitan labor force, there is still a decided advantage in maximizing accessibility to labor, such as can result from sites not too far from earlier developments. The factor of inertia of existing patterns cannot be disregarded.

Picture thus the dilemma of, on the one hand, a trend toward spreading out of the industrial development in the Calumet Area, and on the other hand, a desire on the part of many industries, and expecially the larger ones, to locate as close as possible to existing concentrations. It may be expected that Calumet-linked industries will seek locations as far east as La Porte, Indiana, and as far west as the upper Illinois Valley west of Joliet, as well as to the south, especially along the Calumet Expressway and the two parallel belt lines—the Michigan Central and the Outer Belt Line—connecting the east end of the Calumet Area with Joliet through southern Cook County communities such as Chicago Heights and Park Forest. The extent of the Calumet Area, in terms of industrial development, therefore, may be expected to expand considerably as a result of the transportation improvements and the changing industrial technology, but, except for a small amount of scattering of "light" fabricating and assembly plants, the majority of the prospective industries may be expected to seek locations in mutual proximity. There may therefore be developed new industrial concentrations at transportation nodes, involving convergence of railroads, or highways, or both. Among the prospective railroad nodes having outstanding possibilities for industrial expansion may be mentioned the Blue Island area—which also will, in part be accessible for barges in the Calumet-Sag Channel, the railroad node at Griffith, Indiana, conveniently located in the Calumet Area but not so far intensively developed, and the strip between the two belt lines and also served in part by north-south radial lines, including the western portion of Chicago Heights, northern Park Forest, and Richton Park. Highway nodes include the four-way intersection of the Calumet and Kingery expressways and the Tri-State Toll-Way a short distance south of the Lake Calumet port area, and numerous areas along the Indiana Toll Road between Gary and La Porte. The Calumet Expressway and existing railroad lines offer good possibilities for major industrial development in the area between Highland, Indiana, and the Chicago-Hammond Airport, including the airport site itself. And, finally, the very controversial Burns Ditch area, on the Lake Michigan shoreline eight miles east of downtown Gary offers both trunk line and belt line railroad access in addition to good highway access via the Indiana Toll Road, as well as potential access by lake and ocean ships.

Most of the potential sites for industrial development in the Calumet Area outside of the remaining vacant areas within existing industrial concentrations present problems of conflict between industrial, agricultural and residential use. In promoting and facilitating industrial development of the Calumet Area, it must not be forgotten that the amenity values of the region for residence for the labor force is important. This means that industrial development must not be in such large, continuous areas as to preclude easy access for the labor force, nor must industry intrude into potential residential areas everywhere within the region. Parks, forest preserves, and other open space must also be provided, and they compete, in some instances, with industry for sites provided with good transportation access. A noteworthy example of such unresolved conflict is the Burns Ditch area, where a prospective large industrial and harbor development will impair the nearby high grade suburban residential areas and seriously reduce the attractiveness of the last remaining scenic shoreline and park reserve along Lake Michigan in the entire Calumet Area. Suburban residential areas and parks, as much as industries, depend upon good highway, and in some instances, rail access.

RESIDENTIAL DEVELOPMENT

Next is the consideration of the relations of residential areas and their development to industrial areas, in terms of the transportation requirements for moving people to and from their jobs. Since both industrial and residential areas share common requirements for transportation access, they are in some instances in direct competition for sites, having scarcity value, where such access is now or potentially good.

The majority of the labor force will commute between home and work by automobile, although mass transportation also must receive attention. The integration of the two forms of transportation should receive concentrated attention.

The automobile will be the principal form of travel between home and work in the Calumet Area for several reasons. First, the trend in virtually every metropolitan area has been toward a decline in the use of mass transportation and increased use of private automobiles. The automobile, including its possession and its display, has become a symbol of status and success, and there appears little liklihood of a reversal in the trend toward almost universal automobile ownership. Once ownership of an automobile has been attained, the overhead costs of its maintenance necessitate its maximum utilization, since the out-of-pocket costs of any particular trip represent only a portion of the total costs, and with car-pools the cost per passenger-mile reach competitive levels with mass transportation. Furthermore, with the trend toward reduced density of both residential and industrial development, the average length of the journey to and from work is considerably longer than has heretofore been the case. Part of the increasing distance is due to the vast extent of the industrial areas, such as parts of the Calumet Area, where as much as several square miles may be solidly devoted to industry with no inclusion of residential area whatever. Just reaching parts of the industrial areas from the nearest residences involves rather lengthy trips in some instances.

Mass transportation by rail, whether in the form of suburban railroad service or rail rapid transit service, involves very substantial costs of construction and maintenance of rights-of-way, justifiable only where very heavy traffic densities exist. With the deconcentration of both industries and residences, not only are the origins and destinations of the passenger movements less concentrated than formerly, but the traffic densities along given routes are also less, because of the greater diversity of cross-routes resulting from urban dispersion. Only in rare instances does traffic density exist sufficiently to justify mass transportation of local and commuter passengers by rail. At present three railroads supply commuter service through the Indiana portion of the Calumet Area, and two additional ones supply service in the Illinois portion. With one exception, each of the railroads has consistently, in recent years, sought higher fares, reductions in the frequency of service, and, in several instances, complete abandonment of their local passenger services. It would be counter to the nation-wide trend, and quite improbable, that any major extensions of railroad passenger service would occur in the Calumet Area.

There are, however, four railroad routes which continue to have relatively good passenger service in the Calumet Area, and which can reasonably be expected to form the main lines of mass passenger transportation in the area. These are the three electrified lines of the Illinois Central system, and the South Shore Line electric railroad. These services differ from typical railroad commuter services in that they are performed with multiple-unit electric trains, and their frequency approaches that of urban rapid transit rather than of typical suburban commuter railroads. Modernization of equipment and stations on the Illinois Central, as has already taken place on the South Shore Line, should stimulate additional traffic on its local services, thereby to some extent relieving the traffic loads on the parallel highways. All four lines connect downtown Chicago, residential areas on the South Side, and major employment centers both in southern Chicago and in satellite communities, with heavy potential as well as actual traffic. Other railroads, such as the New York Central, Pennsylvania, and Rock Island, could perhaps experiment with modern equipment, notably the rail diesel car operated in multiple unit, although such experiments elsewhere have not uniformly met with success in arresting the decline of commuter passenger traffic. Other experiments offering promise lie in the direction of more attractive stations, and especially the provision of adequate automobile parking in the vicinities of the stations so that, in effect, the automobile can serve as a feeder to the rail lines, gathering and dispersing the rather diffused traffic between homes and stations, with the rail lines carrying the passengers directly to and from stations located within major concentrations of employment. Some additional stations will be required, as, for example, a facility on the South Shore Line immediately adjacent to the Lake Calumet port area, which its line skirts. Although such efforts could perhaps slow up the decline in local

passenger traffic, it is improbable that the downward trend can sharply be reversed, and we cannot look to the railroads to supply any major portion of the potentially larger transportation services that will be required with the anticipated industrial and residential growth of the Calumet Area.

Somewhat different in detail, although not in essence, is the prospect for rapid transit services by rail. At present, with the exception of the Illinois Central and South Shore Line services, which are rapid transit only in a limited sense, there is no rapid transit by rail available in the Calumet Area. The Chicago Transit Authority system does not extend closer than 63rd Street, several miles north of the Calumet. Studies should be made in the near future of the economic and physical feasibility of linking the CTA transit system with one or more of the electrified or diesel-operated railroad lines connecting the central business district and South Side of Chicago with the Calumet Area. One of the immediate difficulties is that CTA is not authorized to operate outside of Illinois. Studies of the possibility of an interstate transit operation, similar to those under study in connection with the Hudson River crossings to New York and the Delaware River crossings to Philadelphia from New Jersey, could well produce significant proposals for interstate transit in the Calumet Area. It is problematical whether the potential traffic along any one route between Chicago and northern Indiana would justify rail rapid transit in addition to that now provided by the South Shore Line. The importance of the problem justifies serious investigation of possible need.

Quite another matter is the possibility of rapid transit by motor coach on the new and potential expressways. The completion of the end-to-end expressway route represented by the South Expressway and the Calumet Skyway in Chicago together with the Indiana Toll Highway represents a facility with significant possibilities for high-speed motor coach operation between the industrial concentrations of the Calumet Area and their major existing areas of labor supply, on the south side of Chicago. Since motor coaches could share traffic lanes with automobiles and trucks, relatively little capital cost would result from provision of express motor coach services, aside from the costs of the vehicles themselves—which are rapidly amortized in comparison with rail lines and rail rolling stock—and the few requisite maintenance shops.

It was formerly believed that rail rapid transit had inherently greater capacity per track as compared with buses, measured in the number of passengers that could be moved per hour by each means. But there is no known example of motor coach rapid transit service, operating for fairly long distances on especially reserved lanes in expressways. It is quite probable that, using standard buses with close headway, the capacity of an expressway lane would compare very favorably with the capacity of a rapid transit track. Such operation has several potential advantages over rapid transit rail operation. In the first place, buses, being smaller vehicles than trains, have greater flexibility, and could serve a greater number of origins, destinations, and feeder routes beyond the expressways themselves, than could trains, and at the same time the passengers would save the delays and inconvenience of transfers between trains and feeder buses. Furthermore, the buses would represent far less annual capital cost, even with rapid amortization, than would comparable capacities in tracks, switches, signalling equipment and rail rolling stock. Such an operation would have the flexibility of making available the lanes reserved exclusively for bus rapid transit in peak hours for other vehicular traffic in off-peak hours, including weekends. The latter is particularly important in terms of joint costs and use of facilities in the Calumet region, for a tremendous volume of weekend automobile traffic rounds the southern end of Lake Michigan through the Calumet Area. It is suggested, therefore, that a study be made of the feasibility of providing for rapid transit motor coach service to, from, and within the Calumet Area on the expressways now under construction, planned, or contemplated. As in the case of potential rapid transit by rail, the form of organization of an integrated interstate operation would be a major question to be decided, should provision of such service appear otherwise to be feasible.

In the recent past, the planning of major expressways in the Chicago Region, both in Illinois and in Indiana, has been marked, especially in the case of the toll roads, by a conspicuous lack of integration with other aspects of regional development.

The routes have been selected and alignments determined primarily with relation to the maximization of revenues, and hence the encouragement of maximum traffic generation, together with minimum costs of land acquisition and construction, regardless of the effects of the new highways upon the development patterns of the regions through which they are to pass. With new federal highway assistance potentially available, it now appears less likely that new toll roads, in addition to those already authorized and committed, will be constructed in the Calumet Area. Thus the obligation to maximize revenues in order to amortize toll road bonds, a major consideration which has made integration of highway plans with general regional plans difficult in the recent past, will no longer exist, and the highway agencies, therefore, have the obligation to integrate their routes and alignments more closely with general regional development as their primary obligation. It is hoped that more realistic patterns of highways will result, and that all forms of transportation, including rapid transit by both rail and bus, will be considered along with highways as the elements of a complete regional transportation system.

In this connection, several specific problems are already evident, not only in the Chicago region, but elsewhere as well, relative to the planning of modern express highways. The locations of the "interchanges" or access and egress facilities, are especially critical, and must be related, not only to the capacities of the arterial and feeder roads with which they are to connect, but also to the character of the local communities and land uses in their vicinities. Interchanges should be closely integrated with the locations of existing and prospective concentrations of land uses which will generate heavy traffic, such as major industrial areas, large shopping centers, port developments, and high density apartment areas. The land uses in the immediate vicinities of the interchanges are particularly critical, for there are instances outside the Calumet Area where access to the expressways is restricted by poor land use development on the access roads leading to and from the interchanges, thereby severely reducing the attractiveness, in terms of efficient traffic flow and safety, of the use of the expressways because of awkward access. Interchanges and their vicinities are premium sites, somewhat analogous to the street-car transfer points of the past generation, where competition among land uses, often including some which are mutually incompatible, reaches a maximum. The planning of land uses, and the implimentation of such planning by good zoning and other controls, in the vicinities of expressway interchanges and access roads, is an especially critical problem.

STREET TRAFFIC STUDY FOR LAKE CALUMET AREA[4]

The southeast side of Chicago, including the Lake Calumet area, is served with few major trafficways, and most of these have low vehicle capacity. This has presented no extreme problems in the past since the traffic demand has been relatively low. However, the proposed comprehensive development of the Lake Calumet area will undoubtedly increase all activities in southeast Chicago including traffic demand. Since the area has limited traffic facilities it is necessary to give detailed attention to traffic problems which will result from increased industrial activities in the Lake Calumet area.

METHOD OF STUDY

The area around Lake Calumet was cordoned for purposes of the traffic study; the cordon area is bounded by 95th Street, Cottage Grove Avenue, 130th Street, and Torrence Avenue. Within this area data were gathered concerning the existing trafficways.

The existing right-of-way and roadway widths of the major traffic arteries in the area were used for calculating the existing vehicular capacities. These capacities are illustrated in Figure 17. Field surveys were made to determine the existing traffic demand in the area. The results of these surveys are shown in Figure 17.

[4]The traffic survey contained in this section was conducted with the cooperation of the City of Chicago Bureau of Street Traffic and Parking and was directed by Frank E. Barker, formerly Traffic Planner, Chicago Plan Commission, presently, Traffic Engineering Assistant, Chicago Transit Authority. This section was written by Elizabeth J. McLean, Traffic Engineer, Bureau of Street Traffic and Parking, Department of Streets and Sanitation City of Chicago, in collaboration with Frank E. Barker.

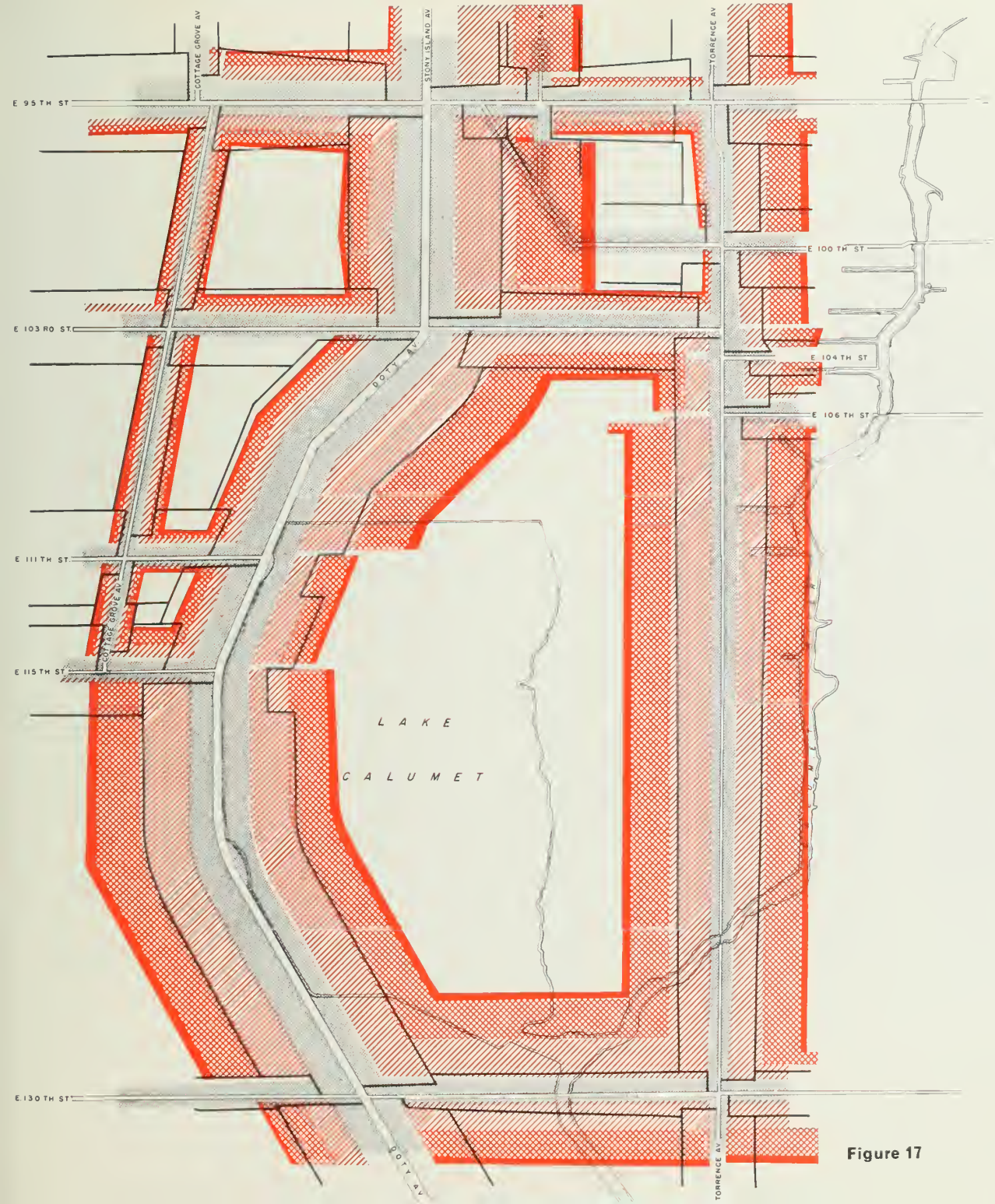


Figure 17

LAKE CALUMET VICINITY

VEHICULAR TRAFFIC VOLUMES

EXISTING VEHICLE FLOW

[2]EXISTING POSSIBLE VEHICLE FLOW

ESTIMATED DEMAND TO BE ADDED BY INDUSTRIAL WORKERS BY 1970

ESTIMATED DEMAND TO BE ADDED BY SERVICE WORKERS BY 1970

ESTIMATED DEMAND TO BE ADDED BY TRUCKS BY 1970

FROM SURVEYS ON JULY 27TH AND 29TH 1954 BY BUREAU OF STREET TRAFFIC AND PARKING, DEPARTMENT OF STREETS AND SANITATION, CITY OF CHICAGO.

[2]DETERMINED FROM CHARTS PRESENTED IN "HIGHWAY CAPACITY MANUAL" BY THE BUREAU OF PUBLIC ROADS.

400
800
1200
1600
2000
2400
SCALE OF VEHICLES PER HOUR

N

1000 0 1000 2000 3000
SCALE OF MAP IN FEET

CHICAGO PLAN COMMISSION DECEMBER 1956

From estimates presented elsewhere in this report concerning numbers of employees, number of service workers, and residence location of these workers, the future traffic demand was estimated for the year 1970. Existing industries were questioned regarding truck traffic, and these data were extrapolated to obtain the estimated truck traffic demand for the year 1970. These estimates were assigned to traffic-ways and the results are shown in Figure 17.

The accumulation of present demand plus the three elements of the estimated future demand gives the estimated total demand for 1970 in the cordon area. This estimated total demand, which is shown in Figure 17, must be provided with trafficways by 1970.

By comparing the existing trafficway vehicular capacity with the estimated 1970 demand, the deficiencies in capacity were obtained. These deficiencies indicate the additional capacity which must be added to the existing traffic system by 1970 for the Calumet Area development.

The numerical results of the study are shown on Table 18. The figures under "C" are the excess capacities, or existing capacity minus estimated total 1970 demand; in most cases a minus sign (−) appears before the number indicating a deficiency in capacity. The numbers followed by the symbol ([b]) are the estimated maximum capacity deficiencies on each of the major streets in the cordon area by 1970. These, then, are the design values. An accumulation of these deficiencies shows a total capacity deficiency of 13,139 vehicles per hour (one way) in the east-west direction, and 15,942 vehicles per hour (one way) in the north-south direction during the peak hour in the year 1970.

Table 18.

Vehicular Capacity and Demand at Selected Intersections in the Vicinity of Lake Calumet, City of Chicago[a]

Intersection	D Existing Demand, 1954				D^1 Estimated Total Demand, 1970				K Existing Capacity				C Excess Capacity $C=K-(D+D^1)$			
	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.	N.	S.	E.	W.
Cottage Grove & 95th (West)	205	429	722	1219	0	0	858	3129	390	290	1160	1260	185	− 139	− 420	−3088[b]
Cottage Grove & 95th (East)	272	0	747	1018	1221	0	596	1908	290	0	1090	1430	−1203	0	− 253	−1496
Doty & 95th	1395	1283	895	747	9275	560	2258	237	1860	1940	660	760	−8810[b]	97	−2493	− 224
Jeffery & 95th	489	440	694	639	0	0	1634	348	560	640	630	850	71	200	−1698	− 137
Torrence & 95th	984	356	413	601	4841	0	1634	204	560	640	630	850	−5265	284	−1417	45
Torrence & 100th	605	428	212	745	4841	208	0	0	730	830	880	870	−4716	194	668	125[b]
Torrence & 103rd	1234	605	230	0	5346	208	3293	0	1060	1250	250	0	−5520	437	−3273[b]	0
Torrence & 104th	1015	524	26	151	5346	3501	0	0	1490	1120	380	210	−4871	−2905	354	59
Torrence & 106th	788	505	98	529	4668	3764	790	1350	1030	1050	350	310	−4426	−3219	− 538[b]	1569
Torrence & 130th	198	629	332	509	0	5477	4196	2069	500	420	690	710	302	−5686[b]	−3838	−1868
Doty & 130th	997	1830	355	680	0	6262	0	5503	1620	1750	170	550	623	−6342	− 185	−5633[b]
Doty & 103rd	1358	1446	320	765	7517	3343	0	1381	2360	2340	430	450	−6515	−2449	110	−1696
Cottage Grove & 103rd	176	169	287	785	1440	790	0	1034	170	250	880	950	−1446[b]	− 709	593	− 869
Cottage Grove & 111th	243	223	261	544	611	568	0	720	420	340	800	980	− 434	− 451	539	− 284[b]
Doty & 111th	1310	1606	284	0	3874	1771	127	0	2770	2880	320	0	−2414	− 497	− 91	0
Cottage Grove & 115th	0	197	521	326	0	442	0	1769	0	320	760	770	0	− 319	239	1325
Doty & 115th	1361	1432	366	0	5643	1898	442	0	2540	2720	360	0	−4464	− 610	− 448[b]	0

[a]All data are peak hour, one-way volumes in vehicles per hour.

[b]Design quantities.

CONCLUSIONS AND PROPOSALS

The traffic study has indicated that the expected increased industrial activity resulting from the Lake Calumet Harbor and industrial development will effect large traffic demand increases. By 1970 it is estimated that additional capacity, over and above that currently available in the cordon area, must be provided for more than 13,000 vehicles per hour (one way) in the peak hour in the east-west direction and nearly 16,000 vehicles per hour (one way) in the peak hour in the north-south direction.

A traffic capacity of 16,000 vehicles is over eight times the highest volume of 1,830 reported carried by Doty Avenue, Table 18. Provision of suitable trafficways to serve the added demand is extremely important to the welfare of the proposed Lake Calumet Harbor development, for congested street traffic conditions might well impair use of the Harbor facilities and hamper the industrial development of the city of Chicago's last remaining supply of vacant industrial land.

It cannot be assumed that expressway-type facilities such as the South Route, Calumet Skyway, Calumet-Kingery Expressway, Stony Island Improvement, and the toll roads (all of which are scheduled for completion before 1970), will solve the traffic problems arising from the increased traffic demand because:

(1) These facilities, themselves, will generate traffic. They will likely operate at capacity regardless of the Lake Calumet Harbor development.

(2) Expressways are designed to carry a type of traffic different from that desiring major street service. Major streets serve the intercommunity traffic. The estimated traffic demands presented in this study are demands destinating within the cordon area.

(3) The estimated increase in traffic is that generated by probable new industrial and port development around Lake Calumet only within the city of Chicago and does not include the even greater increase due to suburban industrial and general residential growth.

It also should not be assumed that it will be necessary to construct new trafficways to serve all the additional traffic demand in the area. There are various means by which additional traffic capacity can be provided for the area. It is important, however, that these means be established as soon as possible so that improvements can be scheduled to avoid serious traffic congestion problems.

Traffic improvements in the area might be staged so that there would be a gradual traffic capacity increase to meet the gradual traffic demand increase. The immediate treatment might be improving the major streets within the existing rights-of-way. This would involve some pavement widening, parking restrictions, progressive signalization, and intersectional treatment.

Figure 17, "Existing Capacity", shows that all the major streets in the cordoned area have a much larger mid-block capacity than intersection capacity. Improved signalization and intersectional treatment would increase the intersection capacities. In some cases turning lanes and channelization would be sufficient improvement, but in some cases the construction of through-lane overpasses would be feasible.

The next stage of traffic improvement in the Lake Calumet Area might be the widening of major street rights-of-way. Comprehensive planning is necessary to accomplish this because new construction must be located so that the street can be increased at minimum cost.

However, these improvements will not be sufficient to serve the entire expected excess demand. It will be necessary to construct new facilities to adequately serve the area. Determining alignment of these new facilities requires careful planning of the entire area as well as the Metropolitan Area. These alignments should be determined in the initial stages of the Calumet development so that alignment is reserved when industrial construction occurs, though construction of the traffic facilities might come in a later stage.

General alignment of new streets might be as follows:

(1) Extension of 111th Street to the east.

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(2) Construction of two other east-west streets between 111th Street and 130th Street.

(3) Extension of Cottage Grove Avenue to the south.

(4) Construction of another north-south street in the vicinity of the eastern shore line of Lake Calumet.

These new facilities plus the improved existing facilities *will provide only a minimum service to the expected traffic demand.* Every other developed area in the Chicago area is served with major trafficways at least as often as every one-half mile. For example the area bounded by 35th Street, State Street, 71st Street, and Damen Avenue, which is approximately the same size as the cordoned Calumet area, is served by 10 east-west and 6 north-south major streets and has a through-traffic volume per hour, one-way in the peak hour of only 4,400 vehicles in the north-south direction and 6,000 vehicles in the east-west direction.[5] The estimated total traffic demand in the Lake Calumet area is about 18,000 vehicles per hour, one-way in each direction and the area is served by only 3 east-west and 3 north-south major streets. Therefore, proposed additions to the major streets in the Lake Calumet area are clearly necessary.

The importance of comprehensive planning of the traffic facilities for the Calumet Area cannot be over-emphasized. Traffic improvements will be necessary; if they are planned and started now, costs will be minimized; if they are neglected until the area is densely populated with industrial development, the cost will be prohibitive and resulting traffic congestion will be detrimental to the Calumet Area development.

MASS TRANSIT[6]

Present conditions confronting mass transit operations in the Calumet Area are very similar to those described in the section of this report dealing with trafficways. Very few plants have been established in the area and those that are in the area are, for the most part, isolated and generally of low employee density. This inadequacy of roadways and transit facilities has undoubtedly contributed to the slow industrial growth of the area. As additional plants are established, mass transportation service will undoubtedly be improved, commensurate with the demand.

Studies are presently underway to determine the practicability of providing railbound rapid transit in the median strip of the South Route Expressway. While this expressway does not intimately serve the entire Calumet Area, conceivably rapid transit could not be justified in the industrial area proper, due to the multiplicity of destinations for comparatively small numbers of employees. This condition does not preclude the possibility of the establishment of a rapid transit terminal with adequate facilities for feeder buses readiating from this terminal in all directions. Initially, it appears that this might be the most efficient method of serving the traffic demand of this area and also alleviate the strangulating traffic picture described elsewhere in this report. The study, previously mentioned, will undoubtedly provide the answer to this and other questions regarding mass transportation for this section of the city.

The potential availability of the Illinois Central Railroad suburban service and the Chicago, South Shore and South Bend Railroad, as major passenger carriers for the Calumet Area, should not be ignored. This section of this report dealing with the potential places of residence of new industrial employees indicates that some of the areas of residence are along the rights-of-way of these two railroads. Once again it will be necessary to provide feeder bus service between the stations and places of employment and possibly additional stations may have to be established. The foregoing are merely assumptions and their justification will be subject to feasibility studies.

Considering the magnitude of the potential Calumet industrial development, it is strongly urged that mass transit (surface and rapid transit) be considered in all planning and construction by private interests and all governmental agencies involved in this area. If vehicular traffic estimates contained in this report, coupled with inadequate roadways and roadway capacity, are

[5]Calculated from traffic counts made by the Bureau of Street Traffic and Parking.

[6]This section was prepared by Frank E. Baker, Traffic Engineering Assistant, Chicago Transit Authority.

partially correct, it is difficult to see how this area can operate without heavy emphasis on mass transportation.

AIR TRANSPORTATION

Critical review of *U.S. Civil Air Traffic Forecasts*[7] indicates clearly that in view of expected growth in the Chicago Metropolitan Area the establishment of an efficient nuisance-free and economical airport of intercontinental classification will be a necessity in the very near future. In order that an inter-belt of major airports surrounding the central city can be completed, a third site (complementary to O'Hare Field on the North and Midway Airport to the west of the city) needs to be reserved in the Greater Calumet Area to the south of Lake Calumet.

Municipalities such as Chicago and its suburban cities must, by acting in concert, anticipate the dynamic pattern of air transportation growth. Planning of airport installations is a metropolitan problem and therefore can only be solved on a metropolitan basis. To do so, the following suggestions are offered as a minimum approach in order that serious problems might be avoided.

(1) The cities of metropolitan Chicago must be prepared to finance their share of the total cost. This means basically restudying the whole problem of financing metropolitan facilities.

(2) At the risk of over-stating the obvious, the purchasing of new land should be accomplished considerably before *balanced saturation* is reached at existing airport installations. If this is not done, the purchase cost is not only greatly increased but an opportunity to protect a desirable site and contiguous land is correspondingly diminished. Also, total land requirements for new sites must be determined by competent planning in order to avoid the serious mistakes of having to meet additional needs by purchasing more land at a later date at exorbitant prices.

(3) Every effort needs to be made to integrate air and ground transportation. Without over-all coordinated transportation planning as an integral part of metropolitan planning, one of the serious deterrents to the future development of transport aviation will continue to be the inadequacy of a metropolitan road network.

(4) Airports and their runways should be planned so that all approach and holding patterns minimize the necessity for a large number of flights over densely settled areas.

Chicago can easily become a world leader in the air transport field. Only a lack of well-planned, balanced facilities will prevent the expected growth from materializing.

[7]Civil Aeronautics Administration, *U.S. Civil Air Traffic Forecasts, 1960-1965*, prepared by Office of Planning, Research and Development (Washington, D.C., 1955).

TRANSPORTATION NEEDS IN THE CALUMET AREA

In a few years, the efforts of at least an additional one-quarter of a million people to live and work will produce tremendous movement within an area one-half the size of the Chicago Metropolitan Area. All of this will be imposed on a circulation system already inadequate to serve present day needs. An understanding of the urban economy and concommitantly the nature of the movement of people, goods and vehicles is certainly basic if the effective functioning of this movement is to be insured. Therefore, a thorough study of the land transportation needs of the Illinois part of the Chicago Metropolitan Area is currently in progress by the Chicago Area Transportation Study with four sponsoring agencies; the city of Chicago, Cook County, the state of Illinois, and the United States Bureau of Public Roads. Most of the recommendations in this section will require a thorough review after the Chicago Area Transportation Study is completed.

The proposals in this section are primarily concerned with current and future transportation needs and as such exhibit two general characteristics: (a) They deal with specific changes which could be undertaken immediately in an area involving several stages. (b) They embody broader principles of transportation planning which must be brought about through alteration of existing land use and regulation of future development.

IMMEDIATE ACTION

(1) There is an immediate need for general improvement of vehicular traffic conditions. This will involve widening of pavements, parking restrictions, progressive signalization and redesign of major intersections.

(2) Four new streets need to be constructed in conjunction with plans for residential and industrial development.

(3) Grade separations must be built for primary rail and major trafficway intersections.

(4) Conflicts between street and highway traffic as well as railroad traffic need to be eliminated.

(5) There should be a study conducted before specific transportation improvements are made in the vicinity of the Calumet River, to determine the magnitude of present and future problems arising from Calumet River bridge openings to allow lake and ocean vessel passage to destinations along the River or in Lake Calumet. With the accelerated industrial and residential development anticipated for the Calumet Area, the prospect of increased Calumet River traffic and increased vehicular and rail traffic poses a problem of substantial delays by either land or water traffic. Such delays reduce the desirability of Lake Calumet Harbor development and discourage full land development of a sizeable part of the Calumet Area.

(6) The density of the existing rail network in the Calumet Area necessitates careful study for possible new alignments and/or consolidation. For example: (a) A rail line giving access to the eastern side of Lake Calumet is definitely needed to serve new industries; and (b) *Neutral rail access* to the port area of Lake Calumet would simplify rail operations and provide the port area with direct trans-continental rail services.

(7) There is a need for review of the boundaries of the Chicago Switching District, with a view toward revision and extension. This is a prerequisite to a comprehensive plan for the industrial development of the entire Calumet Area.

(8) New concepts of freight transportation via highways necessitate a complete review of motor trucking. Union truck terminals, truck terminal districts, "piggy-back" and convenient lay-over terminals are all part of a complex industrial transportation pattern for which the needs and requirements must be determined before the first phase of land planning can be initiated.

(9) A method for regulating land use at transportation nodes, involving the convergence of expressways and/or railroads, should be developed and adopted as an interim measure prior to the adoption of a comprehensive land use plan.

(10) Practically every effort to slow up the decline in local passenger traffic by railroads has failed in the past and probably will continue to do so in the immediate future. Therefore, it is imperative that in view of the potentially larger transportation services necessary as a result of the anticipated industrial and residential growth, every effort by made by private interests and governmental agencies to develop a workable plan to provide mass transit (surface and rapid transit) facilities throughout the Chicago Metropolitan Area.

(11) Land should be reserved for an airport of intercontinental classification.

IV LABOR FORCE, POPULATION AND HOUSING

EFFECTS OF INDUSTRIAL EXPANSION ON RESIDENTIAL DEVELOPMENT

As a result of the industrial expansion of the Calumet Area and the Chicago Metropolitan Area, the Calumet Area will witness more growth in labor force, population and housing than in its previous history. Some of the impact of industrial expansion is already in evidence as noted in the November, 1956, release by a Chicago real estate company located in the Calumet Area.

> "Rents are going up for south side Chicago apartments —now and in the spring.
>
> "The construction of an average of more than 1,000 living units per month in Chicago proper during the first 11 months of 1956 has not been sufficient to keep pace with the increasing demand resulting from the city's constantly growing population of highly paid Negro industrial workers and their families.
>
> "One effect of the steady enlargement of plant capacity in this area and the expansion of almost every type of manufacturing industry here is a scarcity of labor in many fields. As a consequence the higher wages now being paid workers become a stimulus to immigration from other less favored areas, immigration which causes an immediate need for living space.
>
> "The growing class of able-to-pay families produces an exuberant effect on local home sales but the influx also squeezes the already small vacancy ratio in Chicago apartments—pushing rents upward as the number of prospective tenants increases faster than new living quarters become available to them.
>
> "There is at the present time a dearth of four, five and six room apartments for rent on the south side. The most recent issue of the leading Sunday newspaper offers only 42 advertisements of apartments to rent on the south side and nine on the southwest side. (In the north and northwest sections respectively there were about five times as many advertisers.)
>
> "Even new apartment buildings offering small rooms and smaller closets at a monthly rate of about $40 to $45 per room are being snapped up, and the older buildings where commodious quarters rent for around $25 per room per month are fully occupied. And in areas where multiple family occupancy is becoming an accepted practice, the rent asked is no real consideration."[1]

Not only does expanding industry create an impact on labor force, population and housing, but industrial expansion can be hampered by the unavailability of labor force and housing. In discussing a manpower recruitment program to fill the estimated new jobs in the Chicago area's expanding economy Thomas H. Coulter, Chief Executive Officer of the Chicago Association of Commerce and Industry, noted the relationship of labor force, housing and industrial expansion.

> "Unless there are qualified workers here to meet industry's needs, this growth might well be choked off, he said.
>
> "Coulter said, 'The mortgage bankers here have been advised to immediately find money to step up the residential building rate from the 54,000 new units this year to at least 75,000 units in 1957.
>
> " 'We can't continue to grow without these people, and we can't get the people unless we are prepared to have housing, schools, and other facilities for them,' he said."[2]

That the Chicago Metropolitan Area has a period of strong growth ahead is well recognized. Industrial expansion, waterway improvements, and transportation developments all indicate a strengthening of Chicago's already strong position of an industrial-transportation-distribution center for the greater Chicago region. To assess the future residential growth possibilities and resulting developmental problems in the Calumet Area, this chapter discusses (1) population projections of the Chicago Standard Metropolitan Area, (2) Calumet Area growth as a part of that Metropolitan Area growth; (3) residential characteristics of the Calumet Area significant in housing an increased labor force; (4) likely future place of residence of the added industrial

[1]Charles A Ringer Company, *The Survey: A Review of Real Estate Development for the Month* (Chicago, November, 1956), p. 1.
[2]*Chicago Daily News*, November 9, 1956, p. 23.

workers in the Calumet Area and (5) residential developmental needs in the Calumet Area.

METROPOLITAN AREA GROWTH: 1920-1980

Calumet Area residential growth will be a part of the growth of the entire Chicago Metropolitan Area. Some Calumet residential expansion will result from Calumet industries expanding and the added workers residing in the Calumet Area; some will result from general Metropolitan Area residential growth extending into new residential areas.

POPULATION

Projections of the population for the Chicago Standard Metropolitan Area, the city of Chicago and the Metropolitan Ring have been calculated by five-year increments to 1980, Table 19. According to these reports by the Chicago Community Inventory to the Chicago Plan Commission, by 1980 an increase of about 2,000,000 persons over 1955 is projected for the six-county Metropolitan Area.[3,4] According to the "medium" projections, the suburban area or Metropolitan Ring will have 81 per cent or 1.55 million of the 1.91 million Metropolitan Area increase; the city of Chicago, about 19 per cent or 0.36 million. The suburban area's growth is projected to be four times that of the city of Chicago for the 1955 to 1980 period. By 1980 the suburban area population will be double its 1950 total, and suburban population of 3.8 million will be slightly less than Chicago's 4.1 million.

Under conditions of optimum growth and if the Chicago Metropolitan Area reaches the "high" projected total of 8.4 million

[3]Philip M. Hauser and Gerald S. Newman, *Projection of Population for the Chicago Standard Metropolitan Area to 1980*, a report by the Chicago Community Inventory, University of Chicago to the Chicago Plan Commission and the Office of the Housing and Redevelopment Coordinator (August, 1955).

[4]Donald J. Bogue, *An Estimate of Metropolitan Chicago's Future Population: 1955 to 1965*, a report to the Chicago Plan Commission and the Office of the Housing and Redevelopment Coordinator. (Published by Chicago Community Inventory, University of Chicago and Scripps Foundation, Miami University, Ohio, 1955).

Table 19. Population of the Chicago Standard Metropolitan Area City and Metropolitan Ring, 1920 to 1980[a]

		Population in Thousands			Per Cent Distribution			Per Cent Increase from Previous Date		
	Year	Chicago Standard Metropolitan Area	City of Chicago	Metropolitan Ring	Chicago Standard Metropolitan Area	City of Chicago	Metropolitan Ring	Chicago Standard Metropolitan Area	City of Chicago	Metropolitan Ring
Projected Medium Estimate										
	1980	7,898	4,146	3,752	100	52.5	47.5	4.9	0.9	9.7
	1975	7,528	4,109	3,419	100	54.6	45.4	4.7	0.8	9.7
	1970	7,190	4,073	3,117	100	56.5	43.4	6.3	2.7	11.6
	1965	6,762	3,968	2,794	100	58.7	41.3	6.6	3.1	12.2
	1960	6,341	3,850	2,491	100	60.7	39.3	5.9	1.6	13.3
	1955	5,988	3,789	2,199	100	63.3	36.7	9.0	4.6	17.3
Census										
	1950	5,495	3,621	1,874	100	69.5	34.1	13.9	6.6	31.2
	1940	4,826	3,397	1,429	100	70.4	29.6	3.2	0.6	9.9
	1930	4,676	3,376	1,299	100	72.2	27.8	32.8	25.0	58.5
	1920	3,522	2,702	820	100	76.7	23.3	27.9	23.6	44.5

[a]Sources: 1920 through 1950, Philip M. Hauser and Evelyn M. Kitagawa (editors), *Local Community Fact Book for Chicago 1950* (Chicago Community Inventory, University of Chicago, 1953), p. 2.
1955 through 1965, Donald J. Bogue, *An Estimate of Metropolitan Chicago's Future Population: 1955 to 1965*. A report to the Chicago Plan Commission and the Office of the Housing and Redevelopment Coordinator (Published by Chicago Community Inventory, University of Chicago and Scripps Foundation, Miami University, Ohio, 1955), Table 1.
1970 through 1980, Philip M. Hauser and Gerald S. Newman, *Projection of Population for the Chicago Standard Metropolitan Area to 1980*. A report by the Chicago Community Inventory, University of Chicago to the Chicago Plan Commission and the Office of the Housing and Redevelopment Coordinator (August 1955), Table 1.

in 1980, the Metropolitan Ring's population would be 4.2 million or approximately the same as Chicago's population at that date. If growth is less rapid and the Metropolitan Area achieves the "low" estimate of 7.3 million in 1980, the City's population of 4.1 million will exceed the Ring's population of 3.2 million.

Translation of these population increases into needed facilities to serve the population is available in a recent publication by the Chicago Plan Commission[5] and in a newsletter of the American Society of Planning Officials.[6]

HOUSING

The projected two million population increase in the Chicago Metropolitan Area by 1980 will require a high rate of housing construction. Obsolete and substandard dwellings need replacement or rehabilitation by urban renewal programs. Dwellings demolished and replaced by public works such as expressways and parking lots create additional need for housing. The total need for added dwelling units in the Metropolitan Area is a complex question involving the previously suggested items and also such considerations as an adequate vacancy ratio, changing land use from residential to non-residential uses, housing and building code enforcement, and zoning enforcement.

The rate of housing construction has fluctuated greatly in sharp response to economic cycles, times of war, material and financing availability and other variables. This has been true in the city of Chicago and the Metropolitan Area and three periods of fluctuation from 1920 to 1955 are summarized in Table 20. Of the total 821,257 dwelling unit permits issued in the Metropolitan Area during the 36-year period from 1920 to 1955, 46 per cent of the total are reported for the 10-year period of 1920-1929, 12 per cent for the 16 years 1930-1945, and 42 per cent for the 10 years 1946-1955. In terms of average number of permits issued per year the average for the 1920's is 10 per cent higher than the post World War II average and over six times the average for 1930 to 1945 during the depression and World War II when the low of 293 dwelling unit permits was reported for 1933.

The city of Chicago's percentage of the Metropolitan Area's dwelling unit permits was about 75 per cent for 1920-1929, dropping to 45 per cent for 1930-1945 and 31 per cent for 1946-1955. Within the city of Chicago multiple family dwelling units accounted for 80 per cent of the total number of privately con-

[5]Chicago Plan Commission, "When Chicago Metropolitan Area Hits 8,000,000 . . .", *Plans and Progress* (June 1956), pp. 1-4.
[6]Dennis O'Harrow, "One Hundred Families", *ASPO Newsletter* (Chicago: American Society of Planning Officials, April 1955), p. 1.

Table 20.

Dwelling Unit Construction and Demolition by Permit Data, Chicago Metropolitan Area and City of Chicago, 1920-1955[a]

	1920-1929		1930-1945		1946-1955		1920-1955	
	Total	Average Per Year	Total	Average Per Year	Total	Average Per Year	Total	Average Per Year
CHICAGO METROPOLITAN AREA	381,409	38,141	94,501	5,906	345,347	34,535	821,257	22,812
CITY OF CHICAGO								
Total, all Dwelling Units	284,337	28,434	42,812	2,676	108,670	10,867	435,819	12,106
Single Family	58,268	5,827	24,625	1,476	64,292	6,429	147,185	4,088
Multiple Family	226,069	22,607	18,187	1,137	44,378	4,438	288,634	8,017
Public	0	0	8,191	819[b]	7,858	786	16,049	802[b]
Private, all types	284,337	28,434	34,621	2,164	100,812	10,081	419,770	11,660
Demolitions[c]	12,978	2,163	43,749	2,743	13,307	1,331	70,034	2,188

[a]Source: Office of Housing and Redevelopment Coordinator, City of Chicago, *1955 Residential Construction and Related Data*, Tables 2 and 8.
[b]This average applies only to 1936 and the years following.
[c]For the years 1920, 1921, 1922, and 1924, there is no record of demolitions. The averages apply only to the years for which demolitions are recorded. Number of dwelling units demolished is estimated for structure demolitions reported.

structed dwelling units during the 1920's and only 33 per cent since World War II. Apparently the housing demand not met by new construction from 1940 to 1950 was met by over 75,000 dwelling units which the U.S. 1950 Census of Housing and Chicago Community Inventory reports added to the housing supply from 1940 to 1950 by means other than permit construction and which probably represents conversions not recorded by permit data.[7]

CALUMET AREA GROWTH

In discussing population and housing growth in the Calumet Area an early question is that of drawing boundaries around a "Calumet Area". In the chapter discussing industrial development, the "Calumet Industrial Area" was defined as that area of Chicago and Cook County that is south of 79th Street and extending from Joliet in Will County on the west to the eastern boundary of Gary, Indiana, on the east. However, a discussion of the place of residence of the labor force presently employed and likely to be employed in Calumet industries poses another question of area definition. To answer this question, a "Chicago Calumet labor force area" was delimited which had as its focus the industrial area in Chicago along the Calumet River and in the vicinity of Lake Calumet. This area was determined by mapping several travel time zones for all modes of transportation within the area. The thirty-minute time zone was selected as a reasonable maximum journey-to-work time and this zone also included 95 per cent of the residences of this study's sample of present manufacturing employees of Chicago Calumet industries. The Calumet Industrial Area is shown in Figure 3, the "Chicago Calumet labor force area" or "Thirty-Minute Travel Zone" is shown in Figure 18.

In 1950 the population of the Calumet Industrial Area was 1.1 million or 20 per cent of the Metropolitan Area's 5.5 million (Table 6); the Thirty-Minute Zone had a population of 2.4 million or 44 per cent of the Metropolitan Area's population (Table 21).

According to population estimates for 1955 contained in Table 6, the Calumet Industrial Area's population increased 17 per cent from 1950 to 1955, which is the same percentage increase as the Metropolitan Ring. However, the suburban area of south Cook County is growing at twice the rate as the Metropolitan Ring.

Growth indicated by dwelling unit permits issued for 1950-1955 shows a similar rate for the Thirty-Minute Zone and the total Metropolitan Area. Again southern Cook County shows a growth rate substantially above the Metropolitan Ring, 44 per cent to 31 per cent.

A set of projections of future population growth of either of the "Calumet Areas" is beyond the scope of this interim report, but, as an example of future growth, a projection of future industrial job opportunities and resulting population growth is presented in preceding chapters and will be discussed in following sections of this chapter.

NEW INDUSTRIAL JOBS

As discussed in previous chapters of this report the 35,000 new industrial jobs estimated to be created in Chicago's portion of the Calumet Area by 1970 will act as a generating force to produce 60,000 additional "service" jobs and a population increase of about 250,000 persons.

In addition to the 35,000 new industrial jobs in Chicago's portion of the Calumet Area, development of the suburban parts of the Calumet Area will bring additional new industrial jobs and an added population increase. An estimate of the likely suburban industrial development awaits a Metropolitan Area economic base study, but present suburban industrial development is well documented in Chapter I of this report.

The estimated 250,000 population increase resulting from development of Chicago's Calumet Area by 1970 is about one-fifth of the total 1,202,000 population increase projected for the Chicago Metropolitan Area by 1970, Table 19. The one-quarter

[7]Chicago Community Inventory, *Census Statistics on Housing for Chicago; 1950, 1940*, a report by the Chicago Community Inventory, University of Chicago, to the Chicago Plan Commission and to the Office of the Housing and Redevelopment Coordinator (1954), p. iii.

million estimated population increase will be somewhat dispersed throughout parts of the Metropolitan Area but dominately concentrated within the Thirty-Minute Travel Zone from Lake Calumet.

MEANING OF 35,000 NEW INDUSTRIAL JOBS

The projection of 35,000 new industrial jobs in the Calumet Area within Chicago by 1970 is a 70 per cent increase over the present 50,000 industrial employment in the Chicago Calumet. In terms of the population generated and the urban development necessary to house and serve the needs of that population, a comparison with an existing urban development may sharpen the visual image.

The Cook County portion of the Thirty-Minute Travel Zone from Lake Calumet includes 19 municipalities of 2,500 or more population which had, in 1950, a total resident labor force of 25,670 in manufacturing and a total population of 159,091. This group of suburban municipalities is an urban development which houses only about 75 per cent as many manufacturing employees as the 35,000 employees estimated to be added by the industrial development of the Chicago portion of the Calumet Area.

RESIDENTIAL CHARACTERISTICS OF THE CALUMET AREA

The residential characteristics of the Calumet Area are essential information in understanding the Area's potential to house the estimated 35,000 new industrial employees.

RESIDENTIAL LAND USE DISTRIBUTION

The outline of incorporated areas, Figure 18, shows suburban municipalities contiguous with the city of Chicago along the east, south and southwest boundaries of Chicago. On the east the municipalities include all the northern portion of Lake County, Indiana. To the south a line of suburbs is oriented along the Illinois Central electrified railroad extending to Richton Park and Park Forest on the south line of Cook County. A less intense suburban development is southwest from Chicago, with some suburbs located along the Rock Island R.R. commuter-line. Farther west along the inland waterway are Lemont, Lockport and Joliet.

Residential land use, Figure 1, shows a less continuous pattern than that shown by the incorporated area outlines because of industrial land use, railroad yards, water bodies and undeveloped land. Although most residential land use is located within incorporated areas, there is an increasing residential development in the unincorporated area.

Residential densities are not shown directly on a map in this report, but a general view may be obtained from study of Figure 19 which shows the number of persons in the total labor force by Chicago Community Areas and by suburban municipalities.

POPULATION AND HOUSING CHARACTERISTICS

As a place of residence, the Calumet Area has several distinct characteristics. The present concentration of manufacturing industries in the Calumet Area has resulted in a much greater concentration of manufacturing workers in the population of the Calumet Area than in the remainder of the Chicago Metropolitan Area, Figure 19. Also the Calumet Area contains great diversity in income with some of the lowest income areas of the City and suburbs, Figure 20.

In order to study and analyze the characteristics of the Thirty-Minute Travel Zone, it was divided into four Areas: Area I is the Chicago Community Areas north of 79th Street; Area II is the Chicago Community Areas south of 79th Street; Area III is the municipalities in Illinois outside of Chicago; and Area IV is the municipalities in Lake County, Indiana. Tabulations for Areas I-IV appear in Table 21. Chicago Community Areas and suburban municipalities within the Thirty-Minute Zone are shown in Figure 18.

The 1950 total population of the incorporated parts of the Thirty-Minute Zone was 2.4 million with Area I reporting 62 per cent of the Zone's population; Area II, 17 per cent; Area III, 8 per cent; and Area IV, 13 per cent. The city of Chicago, Areas I and II, had 79 per cent of the Zone's population; the suburban area, Areas III and IV, had 21 per cent.

In percentage increase in population from 1940 to 1950 there is a

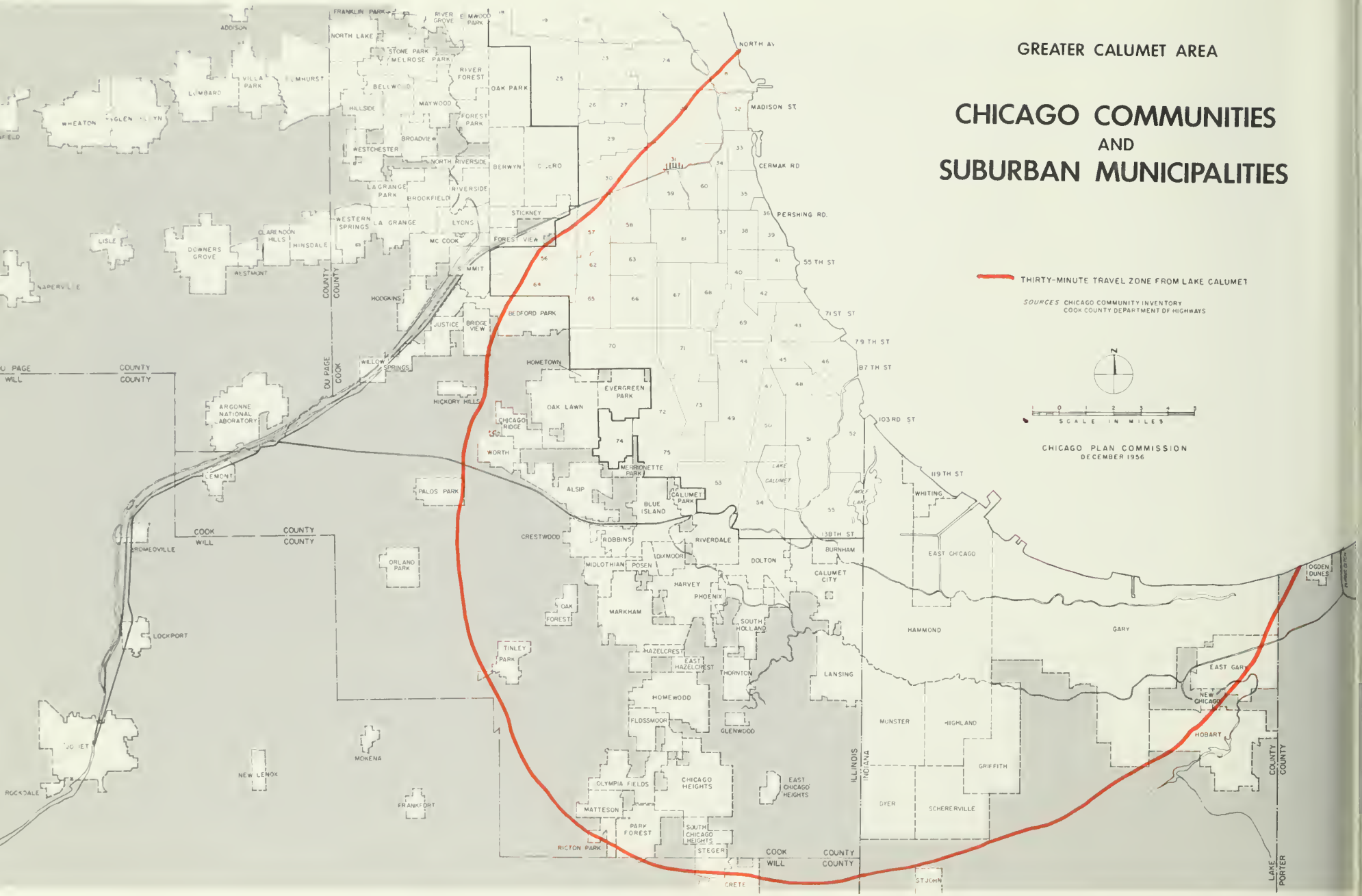
GREATER CALUMET AREA
CHICAGO COMMUNITIES
AND
SUBURBAN MUNICIPALITIES
THIRTY-MINUTE TRAVEL ZONE FROM LAKE CALUMET
SOURCES CHICAGO COMMUNITY INVENTORY
COOK COUNTY DEPARTMENT OF HIGHWAYS
SCALE IN MILES
CHICAGO PLAN COMMISSION
DECEMBER 1956
NORTH AV
MADISON ST
CERMAK RD
PERSHING RD.
55TH ST
71ST ST
79TH ST
87TH ST
103RD ST
119TH ST
138TH ST
FRANKLIN PARK
RIVER GROVE
ELMWOOD PARK
ADDISON
NORTH LAKE
STONE PARK
MELROSE PARK
RIVER FOREST
OAK PARK
LOMBARD
VILLA PARK
ELMHURST
BELLWOOD
HILLSIDE
MAYWOOD
FOREST PARK
BROADVIEW
WESTCHESTER
NORTH RIVERSIDE
BERWYN
CICERO
LAGRANGE PARK
BROOKFIELD
RIVERSIDE
STICKNEY
WESTERN SPRINGS
LA GRANGE
LYONS
MC COOK
FOREST VIEW
SUMMIT
CLARENDON HILLS
HINSDALE
DOWNERS GROVE
WESTMONT
LISLE
NAPERVILLE
HODGKINS
BEDFORD PARK
JUSTICE
BRIDGE VIEW
WILLOW Ssprings
HOMETOWN
EVERGREEN PARK
OAK LAWN
HICKORY HILLS
CHICAGO RIDGE
WORTH
ARGONNE NATIONAL ABORATORY
LEMONT
PALOS PARK
ALSIP
MERRIONETTE PARK
CALUMET PARK
BLUE ISLAND
CRESTWOOD
ROBBINS
RIVERDALE
LAKE CALUMET
WOLF LAKE
WHITING
BURNHAM
EAST CHICAGO
CALUMET CITY
DOLTON
LOMMOOR
MIDLOTHIAN
POSEN
HARVEY
PHOENIX
MARKHAM
OAK FOREST
SOUTH HOLLAND
HAMMOND
GARY
TOGDEN DUNES
HAZELCREST
EAST HAZELCREST
THORNTON
LANSING
EAST GARY
NEW CHICAGO
HOMEWOOD
FLOSSMOOR
GLENWOOD
MUNSTER
HIGHLAND
HOBART
GRIFFITH
OLYMPIA FIELDS
CHICAGO HEIGHTS
EAST CHICAGO HEIGHTS
MATTESON
PARK FOREST
SOUTH CHICAGO HEIGHTS
STEGER
DYER
SCHERERVILLE
RICHTON PARK
CRETE
ST JOHN
ILLINOIS
INDIANA
LAKE
PORTER
COUNTY
COUNTY
COOK
WILL
DU PAGE
COOK
DU PAGE
WILL
BROMEOVILLE
LOCKPORT
ORLAND PARK
TINLEY PARK
JOLIET
NEW LENOX
MOKENA
ROCKDALE
FRANKFORT

Figure 18

Table 21. Population and Dwelling Unit Characteristics of the Thirty-Minute Travel Zone from Lake Calumet, by City of Chicago Community Areas and Suburban Municipalities

City of Chicago Community Areas		POPULATION						DWELLING UNITS				
		Total Population		Labor Force, 1950[b]			Non-white Per Cent of 1950 Total Population					
No.	Name	1950	1940	Total No.	In Manufacturing Per Cent	Median Income 1949 (Dollars)		Total No. 1950	Renter Occupied, 1950 Per Cent of Total	Per Cent Built Before 1920	Per Cent Substandard 1950[c]	Residential Building Permits 1950-1955 All Units[d]
	Area I (north of 79th Street)											
8	Near North Side	89,196	76,954	42,928	27.5	2403	23.5	27,248	87.5	70.5	44.6	3,437
28	Near West Side	160,362	136,518	59,464	41.1	2132	41.5	41,164	84.9	90.7	62.0	2,646
30	South Lawndale	66,977	70,915	29,913	55.0	3488	2.1	20,495	59.6	87.6	24.7	48
31	Lower West Side	53,991	57,908	24,066	51.1	3154	.3	17,242	74.0	97.3	65.3	10
32	The Loop	7,018	6,221	3,134	16.6	1867	5.3	150	82.7	45.0	47.3	2
33	Near South Side	11,317	7,306	4,488	31.9	1699	69.6	2,875	93.1	98.5	77.9	883
34	Armour Square	23,294	18,472	7,917	37.3	2415	52.4	5,927	79.4	76.6	52.7	148
35	Douglas	78,745	53,124	27,060	35.6	1697	97.3	21,474	89.9	84.0	72.6	2,495
36	Oakland	24,464	14,500	9,573	36.2	2173	82.3	7,869	91.9	77.6	56.7	412
37	Fuller Park	17,174	15,094	6,433	40.1	2737	49.8	4,147	67.8	94.4	40.1	72
38	Grand Boulevard	114,557	103,256	48,286	34.3	2096	99.0	31,598	90.9	86.8	60.5	258
39	Kenwood	35,705	29,611	16,892	26.1	2960	15.3	12,771	87.4	74.8	26.7	1,217
40	Washington Park	58,856	52,736	25,607	30.9	2243	98.9	16,477	92.1	86.2	46.3	219
41	Hyde Park	55,206	50,550	26,168	18.8	3370	5.1	19,928	87.5	63.8	15.8	473
42	Woodlawn	80,699	71,685	40,171	25.7	2741	40.1	27,624	87.7	75.9	36.8	900
43	South Shore	79,336	79,593	36,470	23.7	4608	.2	27,930	76.8	33.7	2.7	1,012
56	Garfield Ridge	12,900	6,813	5,575	57.0	4228		3,545	20.6	16.9	10.5	4,873
57	Archer Heights	8,675	8,216	4,088	56.4	4195	0.1	2,467	41.1	25.1	9.8	489
58	Brighton Park	41,345	45,030	19,317	52.0	3812	0.1	12,133	55.1	56.4	15.4	143
59	McKinley Park	18,813	20,429	8,269	47.7	3563		5,348	54.8	88.5	31.0	12
60	Bridgeport	46,070	46,109	19,346	44.4	3457		13,469	66.4	90.9	50.0	49
61	New City	75,917	80,725	32,410	48.4	3393	0.1	21,116	63.3	91.8	41.2	102
62	West Elsdon	7,728	3,255	3,447	50.2	4278	0.1	2,117	16.7	15.7	7.0	1,211
63	Gage Park	30,149	30,343	14,068	47.5	4253		8,645	38.3	36.2	7.3	271
64	Clearing	10,591	6,068	4,691	52.5	4228	0.1	2,910	35.2	18.5	8.5	952
65	West Lawn	14,460	10,289	6,304	44.4	4304	0.1	4,004	25.9	16.5	6.5	3,033
66	Chicago Lawn	50,211	49,291	23,021	38.5	4111		15,014	48.5	16.9	2.2	1,642
67	West Englewood	62,842	64,171	26,940	36.7	3770	6.1	17,732	48.8	75.9	7.7	158
68	Englewood	94,134	92,849	40,661	32.0	3380	10.6	28,059	70.5	84.0	21.2	103
69	Greater Grand Cross	61,753	61,554	26,947	27.8	3819	5.9	18,786	63.4	58.5	10.8	877
	Total Area I	1,492,562	1,395,206	643,654	36.4		29.6	440,264	73.9		35.24	28,146
	Area II (south of 79th Street)											
44	Chatham	40,845	37,788	18,470	26.8	4655	0.9	13,162	64.4	15.8	2.6	869
45	Avalon Park	11,358	10,464	4,651	29.6	4538	0.1	3,335	31.9	13.5	2.5	418
46	South Chicago	55,715	55,090	23,745	52.4	3627	4.8	14,931	60.1	58.5	30.8	573
47	Burnside	3,551	3,567	1,457	45.3	3790	0.2	869	38.9	76.1	13.1	90
48	Calumet Heights	9,349	7,417	4,129	41.3	4380	0.1	2,651	33.8	31.3	8.1	2,121
49	Roseland	56,705	44,009	23,364	37.4	3969	18.4	16,066	41.9	42.9	7.5	1,674
50	Pullman	8,899	6,523	3,796	47.2	3997		2,430	36.2	64.2	25.1	181
51	South Deering	17,476	9,662	6,316	44.0	4208	0.1	4,488	30.2	25.8	10.4	344
52	East Side	21,619	16,513	9,050	54.2	4091	0.1	5,909	37.4	55.1	10.4	481
53	West Pullman	29,265	27,834	12,476	50.4	3873	0.3	8,285	41.4	62.8	13.5	1,941
54	Riverdale	9,790	1,509	1,898	49.1	2657	84.2	2,017	85.2	14.2	12.7	468
55	Hegewisch	7,142	7,509	3,066	61.2	3741		1,899	44.8	64.3	16.5	266
70	Ashburn	7,472	731	2,594	38.1	4402	5.3	1,984	29.6	3.4	1.6	5,690
71	Auburn Gresham	60,978	57,293	26,752	27.1	4263		17,758	49.4	29.0	2.7	1,149
72	Beverly	20,186	15,910	7,643	26.9	6355	0.1	5,808	16.1	23.5	1.3	1,337
73	Washington Heights	24,488	19,370	10,135	28.7	4764	0.3	6,947	29.2	20.2	3.1	1,211
74	Mt. Greenwood	12,331	4,390	4,367	39.1	4237		3,203	9.8	10.0	5.5	1,768
75	Morgan Park	22,618	15,645	8,371	32.1	3789	39.8	6,053	30.9	27.3	15.0	1,487
	Total Area II	419,789	341,224	172,550	38.3		7.4	117,795	43.6		10.02	22,068

TABLE 21 Contd.

Suburban Municipalities	POPULATION: Total Population 1950	1940	Special Census[a]	Labor Force, 1950[b]: Total No.	In Manufacturing Per Cent	Median Income 1949 (Dollars)	Non-white Per Cent of 1950 Total Population	DWELLING UNITS: Total No. 1950	Renter Occupied, 1950 Per Cent of Total	Per Cent Built Before 1920	Per Cent Substandard 1950[c]	Residential Building Permits 1950-1955 All Units[d]
Area III (Cook County, Illinois)												
Alsip	1,228	541	2,814[6]				1.7	344	11.0		13.3	
Blue Island	16,908	16,638		7,444	30.3	3841	0.2	5,097	38.2	61.4	13.7	535
Burnham	1,331	865						289	23.1		8.9	
Calumet City	15,799	13,241	19,066[4]	6,578	47.0	4064	0.2	4,693	37.5	38.7	19.1	1,557
Calumet Park	2,500	1,593	5,476[5]	936	52.0	3705	1.5	643	29.5	22.5	24.2	413
Chicago Heights	24,551	22,461		9,845	49.1	3362	16.7	7,054	50.4	63.1	33.0	846
Dixmoor	1,327	1,022					21.5	331	46.2		36.8	
Dolton	5,558	3,068	9,328[5]	2,075	39.1	4207		1,639	20.0	37.1	15.2	1,308
East Chicago Heights	1,548						36.7	408	30.8		85.4	
East Hazel Crest	1,066	754					6.5	264	31.4		46.5	13
Evergreen Park	10,531	3,313	19,732[6]	3,746	34.0	4717		2,801	9.8	3.2	4.3	2,223
Flossmoor	1,804	1,270	3,889[6]					535	17.7		1.1	525
Harvey	20,683	17,878	23,714[5]	8,610	42.4	3793	4.9	6,066	40.3	48.3	19.5	1,090
Hazel Crest	2,129	1,299	4,810[6]					640	17.8		8.5	934
Homewood	5,887	4,078	10,613[3]	2,306	31.2	4463		1,771	16.8	18.1	9.7	1,999
Lansing	8,682	4,462		2,118	67.0	4268		2,410	15.8	16.3	8.9	1,771
Markham	2,753	1,388	3,950[5]	950	40.0	4222	2.4	735	9.2	2.7	18.0	630
Matteson	1,211	819						378	23.0		8.4	
Merrionette Park	1,101		2,330[5]					322	5.2		46.4	250
Midlothian	3,216	2,430	4,344[4]	1,173	37.0	3979		848	9.9	5.9	6.6	479
Oak Forest	1,856		2,347[5]					541	18.2		22.6	
Oaklawn	8,751	3,483	13,332[3]	3,393	35.3	4608		2,534	8.3	6.7	14.0	2,311
Park Forest	8,138		23,715[5]	2,463	38.7	5332	0.1	2,705	84.9	0.0	0.6	3,812
Phoenix	3,606	2,875		1,367	49.5	3237	40.7	986	44.1	54.5	51.5	
Posen	1,795	1,386	2,265[5]					488	31.7		19.3	98
Riverdale	5,840	2,865	8,125[3]	2,315	40.0	4688		1,675	18.9	18.7	7.1	1,213
Robbins	4,766	1,349		1,190	36.8	2095	99.2	1,143	33.9	8.8	85.6	
South Chicago Heights	2,129	1,837	3,020[6]					629	38.6		26.8	
South Holland	3,247	2,272	4,546[5]	1,156	35.4	3530		923	26.3	34.0	29.1	298
Steger	4,358	3,369		1,675	55.0	3432	0.4	1,193	28.9	50.9	37.3	
Stickney	3,317	2,446	4,594[3]	1,407	53.7	3741		948	24.6	13.9	16.4	116
Thornton	1,217	1,101	1,443[5]					344	29.3		22.1	
Tinley Park	2,326	1,136	3,579[4]					727	14.8		1.5	519
Worth	1,472	702	4,493[5]					443			28.3	727
Total Area III	182,631	121,941		60,747	42.2		6.8	52,547	33.0		20.05	23,143
Area IV (Lake County, Indiana)												
East Chicago	54,263	54,637		23,056	65.6	3374	18.6	14,677	61.5	46.2	30.9	563
East Gary	5,635	3,401	8,078[5]	2,000	59.4	3745		1,585	19.8	7.1	30.9	690
Gary	133,911	111,719		53,943	55.0	3328	29.3	38,283	46.0	29.5	24.5	8,414
Griffith	4,470	2,116	6,864[5]	1,525	50.3	4306		1,170	14.1	11.5	40.0	773
Hammond	87,594	70,184		35,363	51.1	3976	1.3	25,745	36.6	33.5	16.0	5,319
Highland	5,878	2,723	9,017[4]	2,072	48.5	4072		1,677	14.4	5.9	17.2	1,297
Hobart	10,244	7,166	15,423[6]	3,629	47.1	3757	0.4	3,157	21.1	27.7	24.4	1,234
Munster	4,753	1,751	6,548[5]	1,748	42.8	5063		1,400	12.2	6.1	8.5	668
Whiting	9,669	10,307		4,214	63.5	4096		2,729	52.6	76.1	11.6	45
Total Area IV	316,417	264,004		127,550	55.6		16.0	90,423	43.6		22.6	19,003
Total for Areas I-IV	2,411,479	2,122,375		1,004,501	39.5		22.2	701,029	61.8		28.25	92,360

[a]Year of special census indicated by number next to population figure which represents last digit of date; i.e., population 4399[3] indicates 1953 as the date of the census.
[b]Number of persons reporting major industry group (about 99 per cent of total employed labor force). Data are not reported for municipalities of less than 2,500 population in 1950 and this limitation makes incomplete totals for Area III and Areas I-IV.
[c]Substandard dwelling units are defined as those units that were reported as dilapidated or lacking the following plumbing facilities; flush toilet and bath inside the structure for the unit's exclusive use, or hot running water.
[d]Permit reports are not complete for all municipalities and the totals for Area III and Areas I-IV are incomplete.

SOURCES: U. S. Census of Population and Housing, 1950 Chicago Community Inventory *Local Community Fact Book for Chicago, 1950* Office of Housing & Redevelopment Coordinator, City of Chicago Bell Savings & Loan Association

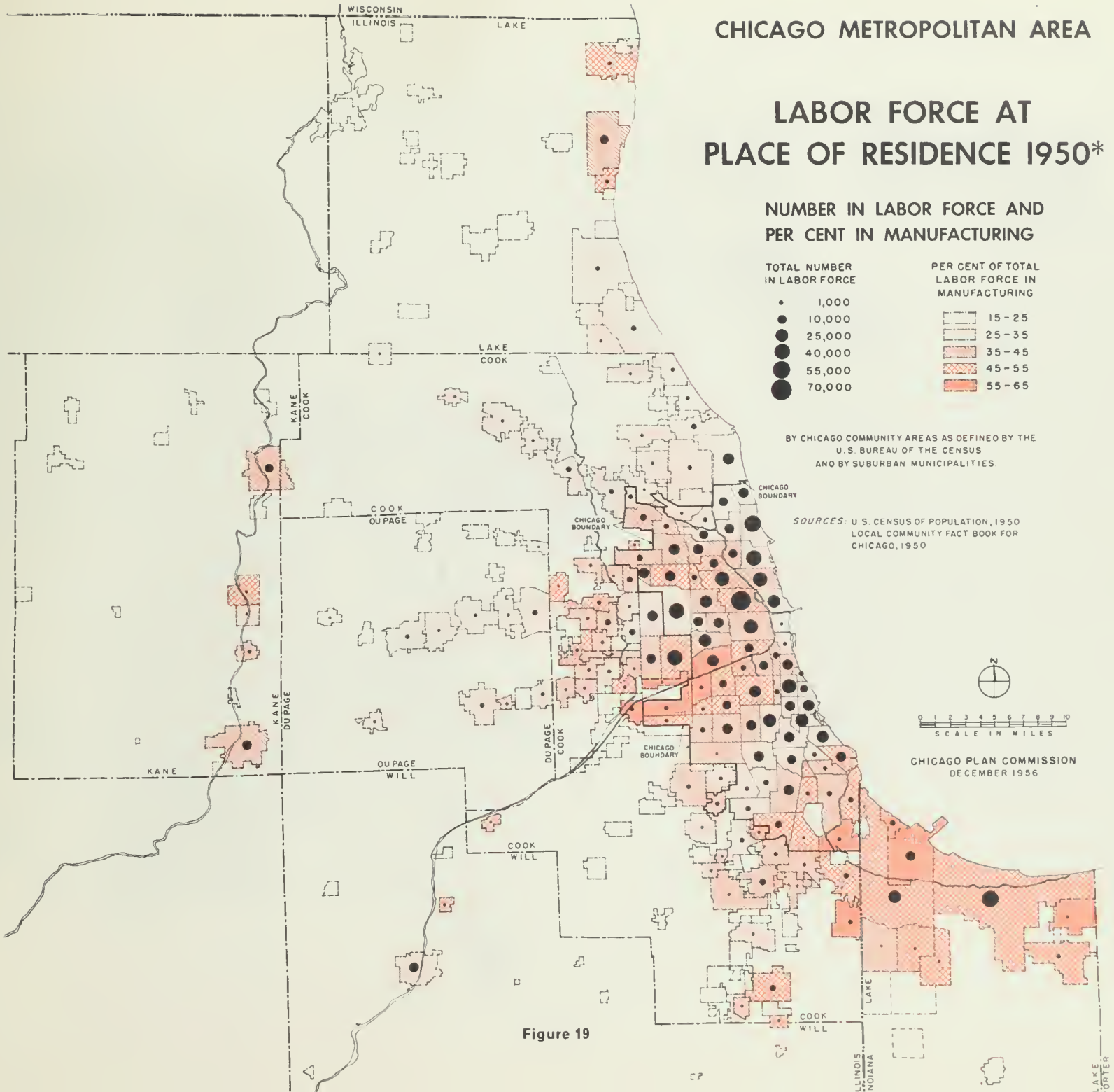
CHICAGO METROPOLITAN AREA
LABOR FORCE AT PLACE OF RESIDENCE 1950*
NUMBER IN LABOR FORCE AND PER CENT IN MANUFACTURING
TOTAL NUMBER IN LABOR FORCE
1,000
10,000
25,000
40,000
55,000
70,000
PER CENT OF TOTAL LABOR FORCE IN MANUFACTURING
15 - 25
25 - 35
35 - 45
45 - 55
55 - 65
BY CHICAGO COMMUNITY AREAS AS DEFINED BY THE U.S. BUREAU OF THE CENSUS AND BY SUBURBAN MUNICIPALITIES.
SOURCES: U.S. CENSUS OF POPULATION, 1950
LOCAL COMMUNITY FACT BOOK FOR CHICAGO, 1950
SCALE IN MILES
CHICAGO PLAN COMMISSION
DECEMBER 1956
WISCONSIN
ILLINOIS
LAKE
LAKE
COOK
KANE
COOK
COOK
DU PAGE
CHICAGO BOUNDARY
CHICAGO BOUNDARY
KANE
DU PAGE
DU PAGE
COOK
KANE
DU PAGE
WILL
CHICAGO BOUNDARY
COOK
WILL
COOK
WILL
LAKE
ILLINOIS
INDIANA
LAKE
PORTER

Figure 19

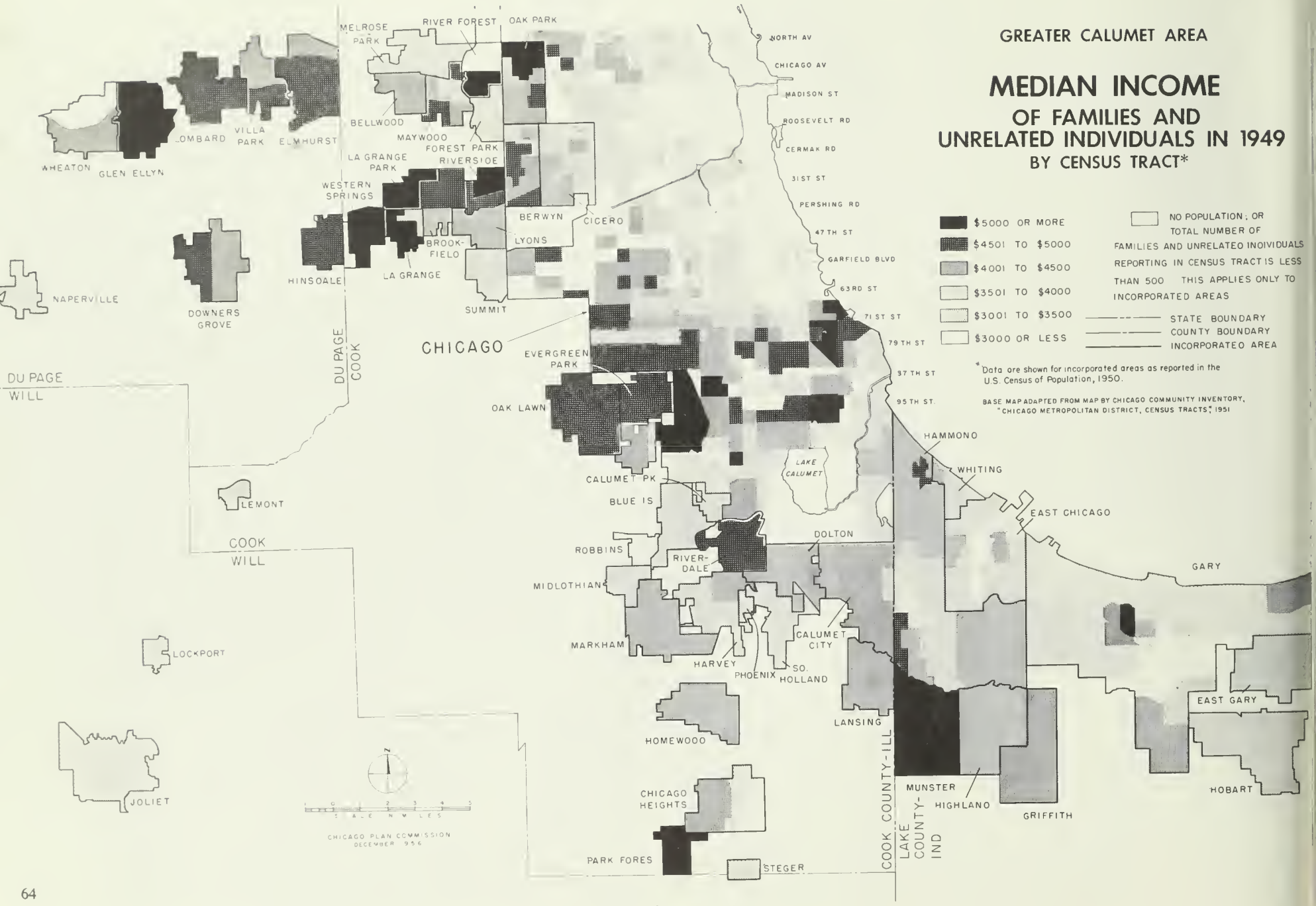
GREATER CALUMET AREA
MEDIAN INCOME
OF FAMILIES AND
UNRELATED INDIVIDUALS IN 1949
BY CENSUS TRACT*
$5000 OR MORE
$4501 TO $5000
$4001 TO $4500
$3501 TO $4000
$3001 TO $3500
$3000 OR LESS
NO POPULATION; OR TOTAL NUMBER OF FAMILIES AND UNRELATED INDIVIDUALS REPORTING IN CENSUS TRACT IS LESS THAN 500 THIS APPLIES ONLY TO INCORPORATED AREAS
STATE BOUNDARY
COUNTY BOUNDARY
INCORPORATED AREA
* Data are shown for incorporated areas as reported in the U.S. Census of Population, 1950.
BASE MAP ADAPTED FROM MAP BY CHICAGO COMMUNITY INVENTORY, "CHICAGO METROPOLITAN DISTRICT, CENSUS TRACTS," 1951
CHICAGO PLAN COMMISSION
DECEMBER 1956
MELROSE PARK
RIVER FOREST
OAK PARK
NORTH AV
CHICAGO AV
MADISON ST
ROOSEVELT RD
CERMAK RD
31ST ST
PERSHING RD
47TH ST
GARFIELD BLVD
63RD ST
71ST ST
79TH ST
87TH ST
95TH ST
BELLWOOD
MAYWOOD
FOREST PARK
RIVERSIDE
LA GRANGE PARK
WESTERN SPRINGS
BERWYN
CICERO
BROOK-FIELD
LYONS
LA GRANGE
HINSDALE
SUMMIT
CHICAGO
EVERGREEN PARK
OAK LAWN
CALUMET PK
BLUE IS
ROBBINS
RIVER-DALE
MIDLOTHIAN
MARKHAM
HARVEY
PHOENIX
SO. HOLLAND
CALUMET CITY
DOLTON
LAKE CALUMET
HAMMOND
WHITING
EAST CHICAGO
GARY
EAST GARY
HOBART
GRIFFITH
MUNSTER
HIGHLAND
LANSING
HOMEWOOD
CHICAGO HEIGHTS
PARK FORES
STEGER
COOK COUNTY-ILL
LAKE COUNTY-IND
WHEATON
GLEN ELLYN
LOMBARD
VILLA PARK
ELMHURST
NAPERVILLE
DOWNERS GROVE
LEMONT
LOCKPORT
JOLIET
DU PAGE
WILL
COOK
DU PAGE
COOK
WILL

Figure 20

marked difference among the Areas. Area I had an increase from 1940 to 1950 of 6.9 per cent; Area II, 23.0 per cent, Area III, 49.7 per cent, Area IV, 19.8 per cent. The relative importance of these increases can be seen by comparing them with the 13.9 per cent increase that was seen for the Metropolitan Area in the same period, or by comparing them with the 31.9 per cent increase in the Metropolitan Ring in the same period.

In 1950 the racial composition of the population of the Metropolitan Area compared to the Thirty-Minute Zone was 11.0 per cent nonwhite in the Metropolitan Area, 22.0 per cent nonwhite in the Thirty-Minute Zone. Although the Thirty-Minute Zone had 43.8 per cent of the total population of the Metropolitan Area in 1950 it had 88.8 per cent of the Metropolitan Area's nonwhite population.

An analysis of the characteristics of dwelling units for the four Areas shows that Area I contains 75 per cent of the renter occupied dwelling units of the Thirty-Minute Zone. The median rent range is lowest in Area I, Chicago Community Areas north of 79th Street. This Area has over three times the population of any of the other Areas, has the lowest median income, has some Community Areas with as many as 98.5 per cent of the dwelling units built before 1920; and eight Community Areas with 50 to 78 per cent of the dwellings classified in 1950 as substandard. In suburban Calumet in Areas III and IV, the southern part of Cook County and Lake County, Indiana, the percentage of substandard housing is 22 per cent compared to 19 per cent for the total Metropolitan Ring.

The municipalities in Southern Cook County, Area III, have been growing at a very rapid rate. In the six years from 1950 to 1955 the number of dwelling units has increased 44 per cent. This is more than double the increase for any of the other Areas. Although in 1950 Area III had only 7.5 per cent of the population of the Calumet Area, in the five years between 1950 and 1955 it experienced 25 per cent of the residential building in the Thirty-Minute Zone. Of the dwelling units built from 1950 to 1955 in suburban Areas III and IV only 2.3 per cent are in multiple family dwelling units, while in Chicago Areas I and II the private multiple family dwelling units amounted to 14.4 per cent of the new construction.

The signifiance of the population and housing characteristics of the Thirty-Minute Zone is found in formulating an answer to the question of where the added industrial workers will live.

FUTURE PLACE OF RESIDENCE OF 35,000 NEW INDUSTRIAL WORKERS

To obtain an adequate view which would enable realistic planning of residential areas with needed services and facilities and to ascertain what residential problems will probably appear within the next 15 years, a study was made to estimate the likely place of residence of the future industrial labor force.

The estimation of the likely place of residence of future employees yields several significant developmental considerations: (1) a valuable estimate of likely origins and destinations for a traffic analysis, (2) the demand for additional housing, (3) an indication of future community problems, the need for new schools and other new or increased local services in new growth areas, (4) the impact on existing housing and (5) the magnitude of conservation or redevelopment problems in existing residential areas.

PRESENT PLACE OF RESIDENCE

Data relating to the present place of residence of Chicago Calumet Area employees were obtained from a thesis by Barbara Gans[8] and from information furnished the Chicago Plan Commission by several major employers. These data show that about one-third of the present labor force resides in the densely populated rental areas north of 79th Street extending to Chicago's Central Business District. Another third of the present labor force lives in the City of Chicago south of 79th Street in Communities number 46, 47, 48, 50, 51, 52 and 55, near the industries located in the vicinity of the Calumet River and Lake Calumet, Figure 18. The remaining third of the labor force is dispersed in the residential areas several miles west of Lake Calumet in the city of Chicago, in south Cook County suburbs, and in northern Lake County, Indiana.

[8]Barbara Gans, "Residential Land Use in the Calumet Area of Chicago" (Unpublished Master's thesis, Department of Geography, University of Chicago, 1954), pp. 61-66.

The third of the labor force living north of 79th Street comes from predominately rental areas relatively low in proportion of manufacturing workers, low in income, but high in the number of persons in the total labor force and in concentration of nonwhite population. This is also the area which contains the highest percentages of substandard housing and dwelling units with 1.51 persons or more per room. From Figures 19 and 20 it is apparent that the third of the labor force living near the Lake Calumet-Calumet River industrial area live in communities high in proportion of manufacturing workers and in areas with medium annual incomes, in 1949 varying from $3,000 to $4,500. The remaining third of the labor force lives in areas to the west, south and south-east of Lake Calumet, which are areas of relatively low population density, but considerable variety in income and in proportion of workers in manufacturing.

FUTURE PLACE OF RESIDENCE

To obtain a picture of the likely future distribution of the place of residence of the 35,000 new industrial workers several variables were isolated. A subsequent report will discuss more thoroughly the subject of this section, but for the purpose of this interim report the significant considerations appear to be: (1) the journey to work, (2) the income of the new worker, (3) new worker's race or ethnic group, (4) vacant land for residential development, (5) supply of existing housing for the various income, occupational and minority groups, including the supply of owner-occupied or rental units. After analysis of published data and consultation with governmental agencies, industrial establishments, labor unions, housing contractors and private organizations to obtain information regarding the previously listed five considerations, an estimated future place of residence for the added 35,000 industrial workers was formulated as reported in Table 22. This Table also reports the present place of workers residence from three sources. The industrial plants listed, present or future, are within the city of Chicago portion of the Calumet Area.

In brief, Table 22 indicates that about half of the new workers will be housed in the City of Chicago and about half in the suburbs. This is very similar to Plant A which presently has 59 per cent of its workers living in the City and 41 per cent in the suburbs. Plant B is a very long established plant which has 89 per cent of its workers in the city and 11 per cent in the suburbs. The seven manufacturing plants total show 81 per cent of the workers in the city and 19 per cent in the suburbs.

The estimated distribution is based on a continuation of existing trends of development and occupancy. These trends show an extremely low per cent of the new construction being rental units and hence the industrial worker must seek rental housing in existing rental areas which accounts for the high proportion (30-35 per cent) in Chicago north of 79th Street. Workers who are in a position to purchase single family homes that are being constructed in the suburban area will undoubtedly continue such a practice and account for the residences estimated for the suburban areas.

Table 22. Place of Residence of Present and Estimated New Industrial Workers Employed in the Calumet Area of the City of Chicago

Area	Present Place of Residence			Estimated Distribution of Residences of New Industrial Workers	
	Per cent Distribution				
	Seven Mfg. Plants[a]	Plant A[b]	Plant B[b]	Per cent	No.
I. Chicago: north of 79th Street	26	35	47	30-35	11,000-12,000
II A. Chicago: east of Lake Calumet, south of 79th Street	44	5	32	6-10	2,000- 3,500
II B. Chicago: west of Lake Calumet, south of 79th Street	11	19	10	15-20	5,000- 7,000
III. South Cook County	11	21	9	25-30	9,000-11,000
IV. Lake County, Indiana	8	20	2	15-20	5,000- 7,000
Total	100	100	100	100	35,000

[a]Source, Barbara Gans, "Residential Land Use in the Calumet Area of Chicago" (Unpublished Masters thesis, Department of Geography, University of Chicago, 1954), pp. 61-66. [b]Source, Correspondence with plants "A" and "B".

IMPLICATIONS OF FUTURE PLACE OF RESIDENCE

In the city of Chicago the consequences of the added labor force in the Calumet Area will be more pressure on conservation areas and on already overcrowded areas. This is the usual development with the expansion of the economic base of any community with increased pressure on the available rental housing. Also for the city of Chicago the increased housing demand would mean the total development of available vacant residential land in the Chicago portion of the Calumet Area. For the suburban area the Calumet development means an accelerated increase in new residential subdivisions.

RESIDENTIAL DEVELOPMENTAL NEEDS IN THE CALUMET AREA

As indicated in the previous sections of this chapter the Calumet Area has some of the most intense problems of substandard residential development in the entire Chicago Metropolitan Area. The Calumet Area also will have its greatest growth in the future. For portions of the Calumet Area in the city of Chicago the solution of the residential problems requires full utilization of all the tools of city planning yet devised and some tools that require invention. In suburban Calumet there is a healthy ,supply of adequate housing but the proportion of substandard housing poses difficult problems to be solved. The large supply of vacant land suitable for residential development in suburban Calumet and the expected high volume of growth indicate that future development will largely determine suburban Calumet's future character.

Although many of the residential problems of the Calumet Area have partial solutions through full utilization of city planning tools, the total solution of the many problems requires a total effort which would include governmental action, programs of private institutions, and active participation by individual citizens.

After analysis and consideration of the residential problems of the Calumet Area, the following developmental needs appear significant:

(1) Adequate land use planning to assure the most desirable locations for future residential areas.

(2) An increase in the supply of housing, both rental housing and owner-occupied housing, for all income groups.

(3) A realistic examination of redevelopment efforts, urban renewal efforts and possible rehabilitation programs.

(4) Adequate standards for the new community development to provide necessary schools and other community facilities and to help prevent the creation of future slums.

(5) Residential development planned with relationship to transportation facilities.

(6) An appraisal of tax base problems that will be accelerated by Calumet Area development.

The Calumet Area's greatest growth will be in the future, and there is still time to do adequate land use planning and to establish adequate developmental standards. Other planning needs suggest modification of the existing situation to more adequately deal with the problems.

LAND USE PLANNING

One of the most marked developmental needs in the Calumet Area is that of land use planning for the entire area. Presently each municipality does its own planning and writes its own zoning ordinance. Cook County has had a zoning ordinance since 1940 but has no planning agency. Lake County, Indiana, has written a zoning ordinance and has a county planning commission. However, a need exists for coordination of the planning and zoning activities of the individual municipalities and counties. This need can be solved by the establishment of a metropolitan planning organization. Presently sixteen municipalities of south Cook County have formed the Regional Association of South Cook County and have started a program to coordinate activities of most of the suburbs in south Cook County. This organization is limited by lack of funds and consequently lack of staff. Also many of the problems faced by south Cook County are part of the Chicago Metropolitan Area problems.

The idea of metropolitan planning for the Chicago area is not

new. A half century ago the Burnham Plan suggested metropolitan planning and in 1923 the City Club of Chicago held a regional planning conference.[9]

The outlook for solving the problem of providing metropolitan area planning appears brighter now than at any previous period. Many governmental organizations, civic organizations, newspaper editors, and citizens are seriously considering or supporting the idea of Chicago Metropolitan Area planning. Problems of local governmental services are being studied by the Northeastern Illinois Metropolitan Area Local Governmental Services Commission (Randolph Commission) established by the Illinois Legislature in 1955 with Representative Paul J. Randolph as Chairman. The Commission's first report containing an analysis of several metropolitan area problems has been issued.[10] In a hearing before the Randolph Commission, the Metropolitan Housing and Planning Council of Chicago presented a proposal to create a Chicago Metropolitan Area Planning Commission. The Council included the Indiana area for several reasons . . .

> "Our interdependence from the standpoint of industry —and in particular the steel industry which involves both states in the Chicago region—and the need for a careful examination of our port requirements, particularly in view of the St. Lawrence Seaway."[11]

The Business Executive's Research Committee and the Northwestern University Faculty Committee in their recent report on metropolitan growth lists among their recommendations the creation of a Metropolitan Area plan commission. Their report states:

> "The Chicago metropolitan area is one of the few areas in the nation that does not have a metropolitan planning agency. The success of such groups in Detroit, Toronto, Los Angeles, and the efforts being made by other large areas to attain intercommunity cooperation should provide the impetus to establish a Chicago Metropolitan Plan Commission."[12]

Adequate sites need to be reserved for future industrial expansion in the Calumet and especially sites with available water transportation. Presently there is competition between residential developers and industrial developers, often for the same piece of land in South Cook County. The odds are good that a parcel of land is not suitable for both uses and hence adequate planning analysis is required to establish the appropriate land use. Some industrial uses require surrounding buffer areas if objectionable effects on non-industrial uses are to be eliminated. Without a metropolitan planning organization and without a Metropolitan Area economic base study tremendous chaos can be created in the future reservation and development of land in the Calumet Area. Too much or too little land in inappropriate locations may be allocated for industrial, residential or recreational uses without any overall metropolitan planning coordination.

INCREASED HOUSING SUPPLY

The need for an acceleration in the construction of housing units is directly associated with the expansion of the economy of an area. This is noted in statements by the Charles A. Ringer Company and the Chicago Association of Commerce and Industry quoted in the first section of this chapter. The Calumet Area has the difficult problems of replacing or rehabilitating existing substandard housing and also providing new housing. The Calumet Area has a very marked part of the housing problem of the entire Metropolitan Area.

The Business Executive's Research Committee and the Northwestern University Faculty Committee in their recent report summarized the city of Chicago's housing problem:

> "The City's building program of the past 25 years has not only lagged behind the population increase, but has failed by a wide margin to provide the needed replace-

[9]Daniel H. Burnham, Jr., and Robert Kingery, *Planning the Region of Chicago* (Chicago Regional Planning Association, 1956), p. 20.

[10]Northeastern Illinois Metropolitan Area Local Governmental Services Commission, *Metropolitan Area Problems in Northeastern Illinois*, Part 1—Analysis, Section A (1956).

[11]Leonard Spacek representing the Metropolitan Housing and Planning Council, *Chicago Daily Construction News*, September 27, 1956.

[12]Business Executive's Research Committee and Northwestern University Faculty Committee, *Chicago Metropolitan Growth, Pattern, Problems, Prospects* (School of Commerce, Northwestern University, Evanston, Illinois, 1956), p. 13.

ments for demolished and obsolete dwelling units.

> "The decline in the construction of multiple dwelling units and the increased tendency to construct single family units in Chicago have added to the housing shortage."[13]

The Citizens Committee to Fight Slums also recognized the need for "increasing the housing supply" in their 1954 report. The Committee report states:

> "A basic obstacle to the elimination and prevention of slums is the lack of sufficient standard housing readily available to Chicago's growing number of lower and middle income families. Standard units rapidly become blighted when they are overcrowded. Substandard units remain in use because their occupants have no other place to go.
>
> "Effective law enforcements, slum clearance and rehabilitation can all be stymied unless the total housing supply is increased to accommodate those who should move from substandard housing. While new relocation units are highly necessary, the fact is that any addition to the total standard housing supply helps to relieve the population pressures that are a factor in producing slums.
>
> .....
>
> "Slums will continue to flourish so long as they provide the only source of living space for a large proportion of our families. They will continue to be profitable so long as decent accommodations are not available to the slum dweller, for whatever reason."[14]

Although no complete statistics are available on the present vacancy rate of dwelling units in the city of Chicago and probably will not be available until the completion of the National Housing Inventory on a sample basis in 1957, the 1950 U.S. Census of Housing reported only 9,126 dwelling units were vacant, non-seasonal, not dilapidated, for rent or sale, or 0.8 of 1 per cent of the total 1,106,119 dwelling units in the City of Chicago.[15]

[13]*Ibid.*, p. 16.

[14]Citizens Committee to Fight Slums, *Housing Action Report of 1954 to Mayor Martin H. Kennelly* (Chicago, 1954), p. 18.

[15]U.S. Bureau of the Census, 1950 *Census of Housing, Chicago, Illinois, Block Statistics*, Bulletin H-E35 (Washington: Government Printing Office. 1952), p. 3.

Another aspect of the housing supply question is that of available housing for particular groups of people. The premium prices paid for either purchased housing or rental housing by some minority groups accelerates the deterioration of residential areas. Such premium prices lead to increased occupancy, often a doubling or tripling of previous occupancy. Such a spiral of deterioration is endless unless a sufficient housing supply is available to all groups.

An experimental house designed by George L. Ramsey, Chicago Building Commissioner, may aid in solving the problem of providing adequate housing for lower or middle income families. Ramsey's three-bedroom house has a total living area of 1,170 square feet and was built at the approximate cost of $12,000 or about $10 per square foot. The *Chicago Daily Construction News* reports: "According to Ramsey, if an experienced contractor were to build 100 of these homes, he could finish the first in 30 days and complete another every day after that. Ramsey expressed his willingness to give his plans to the building industry, providing he could be convinced that they would be used to relieve the housing shortage."[16]

In addition to the possibilities of lower cost housing the income level of the Calumet Area workers is highest in the manufacturing groups according to Illinois Department of Labor reports. Top paying among the industries is the Petroleum and Coal Products industry with average weekly earnings in August, 1956, of $113.00 or $2.62 per hour. In second place is the Primary Metal Industries with $101.00 weekly or $2.53 per hour. The Transportation Equipment industry and Non-electrical Machinery industry are both reported about $95.00 per week average earnings, or about $2.30 per hour. The next group around $90.00 per week, or about $2.20 per hour, are the Stone-Clay and Glass Products industry, and the Fabricated Metal industry, the Chemicals and Allied Products industry. Food and Kindred Products rates the lowest of the eight industry groups in the Calumet with average weekly earnings of $81.45, hourly earnings of $2.02. The pay scale of workers that make up almost 90 per

[16]*Chicago Daily Construction News*, November 14, 1956, p. 4.

cent of the manufacturing employees in the Calumet Area ranged from $88 to $113 average weekly earnings in August, 1956.

The problem of providing an increased supply of housing and especially rental units has been recognized by many civic groups. Employers in the Calumet Area are also showing marked interest in the housing questions as shown by the organization of the Purdue-Calumet Foundation of East Chicago, Indiana. The demand for rental housing in the Calumet Area will be more intense than in other parts of the Metropolitan Area because of the characteristics of the labor force peculiar to the Calumet Area.

URBAN RECONSTRUCTION

A definite need exists for a realistic examination of redevelopment efforts, urban renewal efforts and possible rehabilitation programs. Redevelopment efforts that demolish housing without adequately providing replacement of the lost number of dwelling units in some other area cuts down on the housing supply of the City and Metropolitan Area. As long as the housing supply is extremely limited the increased pressure for conversions "by use" or "informal conversions" will continue unabated. Complete enforcement of the newly enacted Chicago Housing Code would mean additional pressure on existing housing. All of this pressure coupled with an expanding labor force creates tremendous strain on all areas of residences in the entire Metropolitan Area. This impact is felt with extreme vigor in conservation areas. Conservation efforts, urban renewal efforts, redevelopment efforts, will fall short of their mark unless an adequate supply of standard housing is available for all people at all income levels.

In a recent publication, Catherine Bauer notes the different conditions that prevail in the 1950's from the 1930's when "slum clearance" was legislatively given status.

> "During most of the 1930's, the vacancy rate in slum areas and elsewhere was quite high, property prices were extraordinarily low as were building costs, and any and all forms of building activity were desirable to counter unemployment. It would have been the ideal time to engage in wholesale clearance and reconstruction.
>
> "But now—and indeed, ever since wartime—every one of these conditions is reversed, with the result that any former argument for a vast program of civic betterment geared almost exclusively to clearance operations is immeasurably weakened. No wonder it is so difficult! And no wonder it tends to produce some strange results.
>
> "For now we have a housing shortage that bids fair to be chronic, and automatically cancels most of the social arguments for slum clearance until the supply of low-rent homes available elsewhere has been enormously increased. Slums are full and profitable, which means that they are expensive and difficult to acquire."[17]

The hope of solving the problems that urban renewal, redevelopment or conservation programs have set out to solve would appear to depend in a large measure upon a comprehensive view of what is required and what priority be given in solving what problems. With an expanding economy and expanding labor force the question of the size of the supply of standard housing for all income groups appears a very significant consideration if a city is not to destroy some neighborhoods while trying to rebuild others.

DEVELOPMENTAL CONTROLS

Adequate controls of new community developments are essential to provide the necessary schools and other community facilities and to help prevent the creation of future slums. Uncontrolled marginal developments can lead to economic bankruptcy of a municipality and can strike a hard blow at the desirability of the entire Chicago area as a place for new industries and residents. The industries attracted to a particular area consider the housing and community facilities available for the labor force as one of their locational determinants. Adequate controls of new housing development to provide the necessary community facilities is a local governmental problem in addition to being a metropolitan, state, and federal problem.

[17]Catherine Bauer, "Redevelopment: A Misfit in the Fifties", *The Future of Cities and Urban Redevelopment*, ed. Coleman Woodbury (Chicago: University of Chicago Press, 1953), p. 13.

TRANSPORTATION AND RESIDENTIAL DEVELOPMENT PLANNING

Residential densities must be planned with relationship to transportation facilities. As has been cited in previous paragraphs the decided need for rental housing that exists indicates that well designed and organized rental areas are required to house the increased labor force. This higher density development should be well placed with respect to transportation facilities enabling the least friction in the journey to work and other trips. The planning of appropriate residential densities will probably depend considerably upon the exchange of information between the various municipalities concerned and this may be done perhaps best through a metropolitan area planning agency and with full utilization of the findings of the current Chicago Area Transportation Study.

TAX BASE

The provision of an adequate tax base for municipalities, school districts and other taxing jurisdictions presents a special problem in the Calumet Area. A large municipality, such as the city of Chicago, with a broad industrial and commercial tax base does not face the extremely severe problems that the smaller municipality faces on the tax base question. Within the Calumet Area the accidental location of waterways has blessed some areas with choice industrial land. The accident of location of rail lines, expressways and toll roads has also brought certain logical industrial areas in some municipalities but not in others. The purely residential taxing district of high income and high valuation housing is able to meet its tax load for local governmental services. However, the taxing district that is dominantly residential and has moderate value residences will find difficult problems in meeting the local tax load. It would appear that the accidents of location of choice industrial land and also the need for moderate and low cost housing creates a situation which cannot be solved by the existing local real estate tax base. Increased demands for state aid, and in some cases federal aid, to help municipalities solve their tax problems is well known. Unless the tax base problem is realistically appraised local governmental services of many jurisdictions in the Calumet Area will find difficulty in meeting minimum requirements. The solution to the tax base problem will undoubtedly be a continuing struggle. However, before solutions are sought an adequate understanding of the problem is essential. This understanding is being obtained "nightly" by many local government officials throughout the entire Chicago Metropolitan Area.

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